THIS WEEK'S NATIONAL PETROLEUM NEWS

The Recognized Authority on News, Markets and Technical Developments in the Oil Industry

FOUNDED 1909

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COMING MEETINGS

General Exposition

Texas Centennial Exposition, Dallas and Ft. Worth, June 6 to Nov. 29.

Oil Meetings

Interstate Oil Compact Commission Meeting, State Capitol Bldg., Oklahoma City, Okla., Dec. 1.

Independent Petroleum Association of America, annual meeting, Biltmore Hotel, Oklahoma City, Okla., Nov. 30 and Dec. 1.

American Society of Mechanical Engineers, New York City, Nov. 30 to Dec. 4.

Twelfth National Exposition of Power and Mechanical Engineering, Grand Central Palace, New York City, Nov. 30 to Dec. 4.

Mid-Continent Oil & Gas Association, (Texas Division) annual meeting, Houston, Texas, Dec. 4.

National Exposition of Chemical Industries, Grand Central Palace, New York City, Dec. 6 to 11.

Nebraska Petroleum Marketers, Hotel Paxton, Omaha, Nebr., Dec. 8, 9 and 10.

Mid-Continent Oil & Gas Association, annual meeting of general board of directors, Tulsa, Okla., Dec. 15.

1937

Society of Automotive Engineers, Book-Cadillac Hotel, Detroit, Mich., Jan. 11 to 15.

First International Consumers Petroleum Exposition, Convention Hall, Detroit, Mich., Jan. 16 to 24.

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W. S. S. RODGERS

The new vice-president of refining of the American Petroleum Institute, W. S. S. Rodgers, rose from a position in the Port Neches, Texas, asphalt laboratories of The Texas Co. to president of this world-wide corporation in less than 20 years.

» He joined the company in 1915. By steps he became assistant superintendent of the company's northern terminals, then went to war, came back a captain, and became general superintendent of all terminals. «

In 1926 he was made assistant to the president. He was elected vice-president in charge of sales in 1928, made a member of the executive committee in 1929 and finally president on April 25, 1933.

NATIONAL PETROLEUM NEWS

VOLUME 28 NUMBER 47

AT NEW YORK AUTO SHOW

Lower and Wider Bodies, Hypoid Gears, and Higher Compression Ratios are Prominent in the New Models.

NEW YORK, Nov. 14

"BY THEIR noses you shall know them", might have appropriately been the theme song of the thirty-seventh National Automobile Show which opened Nov. 11 at the Grand Central Palace here for one week.

After a year of confusion over the mistaken identity of the makes of 1936 cars, due to a marked similarity in front end, or nose, treatment, the 1937 models have again resorted to a burst of originality in the designs of hoods and radiator grilles.

So now you can look at a Buick, for example, and not have the least doubt in your mind that it might have been an Oldsmobile that you saw, thanks to the individuality of design in the radiator grilles.

The display at Grand Central Palace included over 200 cars

By JOHN W. THOMPSON
N. P. N. Staff Writer

and chassis, representing 20 makes of American manufacture and 5 English. Seven makes of trucks were exhibited, as well as practically one entire floor of the products of accessory and shop equipment manufacturers.

The feature of the show, if the crowds could be taken as an indication, was the exhibit of 25 makes of tourist trailers. Seemingly oblivious to the four-floor climb, crowds funneled up

The engine hood of the 1937 V-8 is hinged at the back and lifts from the front. Other 1937 cars having a similar hood include Chrysler, DeSoto, Studebaker, Lincoln-Zephyr, Cord and Willys

to this newest American phenomenon in much the same manner that the democrats went to the polls.

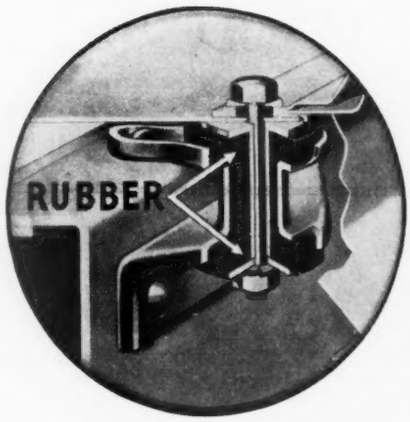
The big show at the Palace was by no means the only show. Across Lexington Avenue in the Chrysler Building, Walter P. set aside a part of his first and second floors, with moving turntable, moving stairway, and everything, to let the folks view just his own creations.

Another side show was presented by General Motors, who again this year hung out the welcome mat at the swanky Waldorf Astoria, showing the complete GM line, not even forgetting Frigidaire.

Ford again chose the Astor Hotel to show his Lincoln and Ford models to the breathless public. Ford packed them in, principally because of his new 60 horsepower engine, which he introduces this year along with the 85 horsepower engine. All the "side show" exhibitors except Ford also were on hand with models at the "main event"; Ford, not being a member of the Automobile Manufacturers Association, which sponsored the National Show, threw his cloak of rugged individualism about his foxy chassis and put on his own show.

The enterprising soul who researched his way into finding that there have been close to 1100 makes of automobiles produced since the industry's birth, is probably viewing with interest the present statistical picture. There are 23 makes of automobiles being produced today, offering 49 models. Last year there were 54 models.

Missing at the show this year were Auburn, Hupmobile, and Reo. Auburn will announce its 1937 models in the spring; Hupmobile with organization problems hanging over its head is not in production; and Reo has discontinued its passenger car production and will center on trucks exclusively.



Metal to metal contact between body and chassis is eliminated on the 1937 cars of the Chrysler Corp. by means of rubber insulators, one of which is shown here on the 1937 Dodge

The 1937 cars, of course, feature attractive styling and safety. Longer wheelbases, wider and lower all-steel bodies, built-in windshield defrosters, and double-acting shock absorbers are among the more obvious improvements.

The findings of the General Motors Customer Research Division, after asking a million people and finding that 74.5 per cent of the replies were definitely against floor tunnels, undoubtedly had some effect upon the company's adoption of hypoid rear axles. In the GM group for 1937, we find Chevrolet, Buick 40 and 60, La Salle, and the Cadillac V-8 models so equipped. Oldsmobile and Pontiac get around the use of a hypoid, and still eliminate the floor tunnel, by making a two-section propeller shaft and slanting the rear half down at a steeper angle.

Other hypoid equipped cars for 1937 include Plymouth, Dodge, DeSoto, Chrysler (except Airflow model), Packard, Pierce Arrow, Studebaker, and Duesenberg. Twenty-one 1937 models are hypoid equipped, as against 13 in 1936.

While the hypoid rear axle presents the most important new feature in the 1937 models, there have been numerous other mechanical refinements but few major changes.

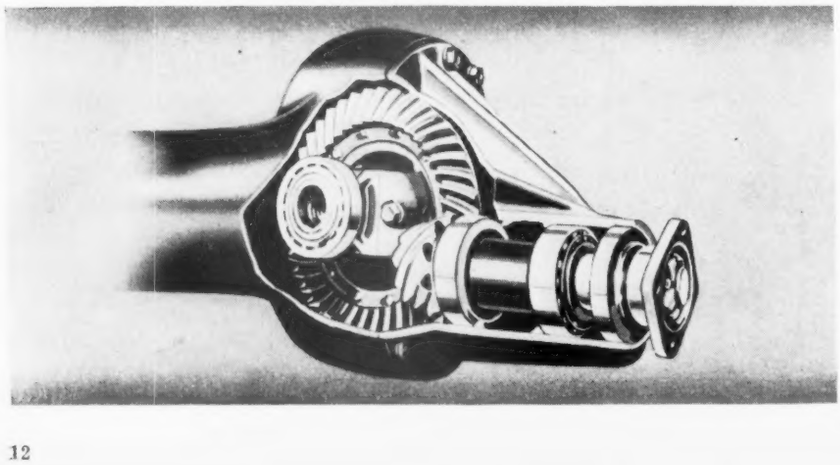
In spite of fewer models this year, 16 models are equipped with aluminum cylinder heads, as against 17 last year. This year 30 models have cast iron heads, while 34 in 1936 used this type of head.

Thirty-eight models in 1937 are using babbitt, either plain or steel-backed, for connecting rod bearings. Copper lead, used in 13 models in 1936, is now used in only 5 models. Cadmium silver connecting rod bearings are used in 4 models in 1937 cars.

Aluminum pistons still get the call, being used on 39 of the 47 1937 models. Cast iron and steel pistons are each used on 3 models and chrome nickel iron on two models.

Power boosts have been made by increasing the engine sizes in the small Buick, Oldsmobile, Pontiac, LaFayette, Chrysler Six, and DeSoto. The larger Buicks, Hudson, Terraplane, Cord, and Graham have boosted power by other means, such as increasing compression ratios, larger or better shaped valves, larger intake and exhaust passages, improved manifolding and better cooling.

Ford introduces a car with one size of chassis, into which can be placed either a 60 or 85 horsepower engine. The larger engine remains substantially the same. The smaller engine is approximately two-thirds the size of the larger unit, having



The Chrysler hypoid rear axle, typical of the type being used on about 70 per cent of the 1937 cars

a bore of 2.6 inches, stroke of 3.2 inches and a piston displacement of 136 cubic inches, as against 221 cubic inches for the larger engine.

The redesigned Chevrolet engine is 85 horsepower, has a four bearing crankshaft and camshaft and slipper-type pistons, with a reinforcing rib following each slipper edge. The Chevrolet pistons have a beveled top, providing a more compact combustion chamber.

Oil and compression rings, maintaining a uniform pressure through the use of a series of independent double-leaf spring units, permit an improved oil economy on the Packard and Graham. Packard claims less oil consumption at 35,000 miles than at 10,000 miles.

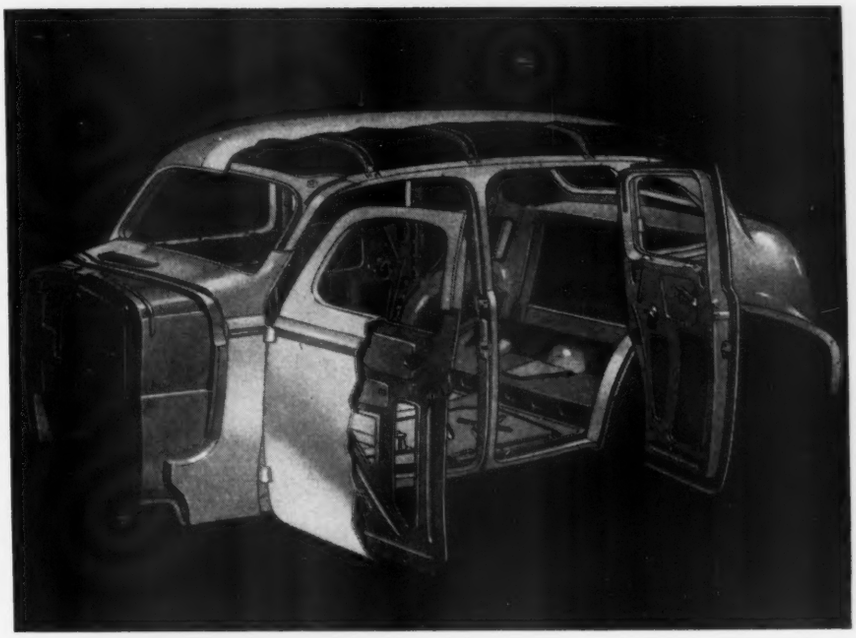
THE Graham pistons are lubricated by a metered flow of oil forced to the cylinders through the valve lifters. Graham, incidentally, expects 50 per cent of its 1937 production to be supercharger-equipped. Cord introduces a supercharged model for 1937, developing 170 horsepower.

Another new engine in the 1937 line-up is the LaSalle, now a V-8. This engine develops 125 horsepower, or 20 per cent more than the straight 8 of 1936. The Packard Six, also new, is an L-head engine developing 100 horsepower.

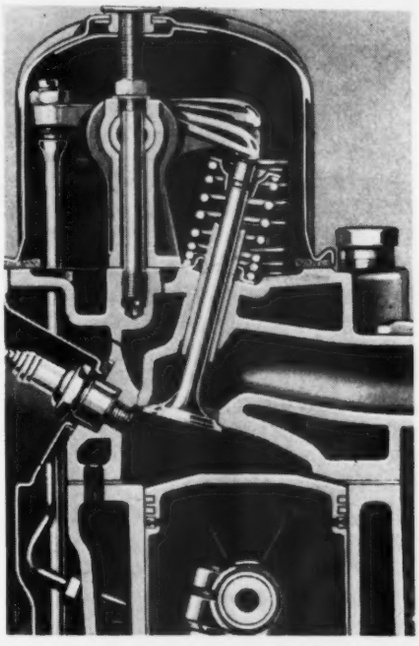
Several makes of cars have engines with compression ratios of 6 to 1 or higher. Among these are Chevrolet, Chrysler, Dodge, DeSoto, Hudson, Graham, LaSalle, Packard, Plymouth, Pontiac, Lincoln-Zephyr, Ford, Studebaker and Terraplane.

Chrysler, Graham, LaFayette, Nash, DeSoto and Studebaker continue with the overdrive transmission as optional equipment. The vacuum shifter, or "electric hand", did not come into wide use this year, being found only on the Hudson, Terraplane and Cord.

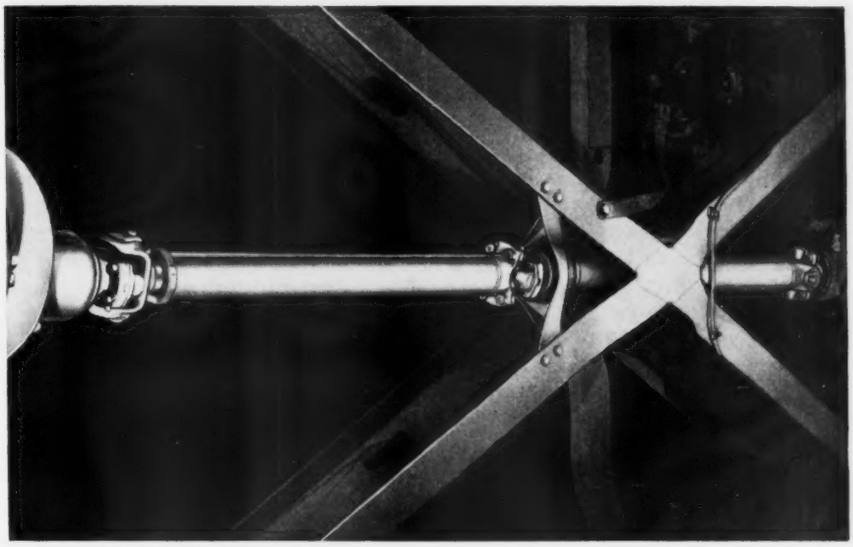
The "hillholder", designed to prevent the car from rolling backward on hills, and introduced by Studebaker in 1936, will be continued on that car



The Fisher Uni-Steel body used on many of the General Motors cars for 1937



A more compact combustion chamber is permitted on the 1937 Chevrolet engine by the use of beveled-top pistons



Oldsmobile for 1937 resorts to a two-section propeller shaft to eliminate the floor tunnel in the body. Pontiac follows a similar design

This type of double acting shock absorber, shown here on the 1937 DeSoto, has been quite generally adopted on the new cars

• • •

and in addition will be found on the 1937 Hudson and Terraplane.

All the cars using independent front wheel springing last year continue that design this year. The spring suspension system introduced on the original Packard "120" model, known as the "Safe-T-fleX" suspension system, is now used on all Packard models. Pontiac, which formerly used the Dubonnet type of front suspension, now employs the "wishbone" type, similar to that used on higher priced General Motors cars. Pontiac will use this design on both models, discontinuing the policy of using conventional front springs on its Master Six model.

Only Chevrolet now uses the enclosed Dubonnet type of front springing on its Master DeLuxe model. The Chevrolet Master model continues with conventional elliptic front springs.

The front axle radius rods introduced on the 1936 Hudsons and Terraplanes are continued in 1937 and are now bolted to the axle instead of being pivoted to it.

The alligator-type hood, that is, the type which hinges at the rear and opens from the front similar to the 1936 Cord and Zephyr, finds a few more followers of that faith in 1937. In addition to the two just mentioned, DeSoto, Chrysler, Ford, Studebaker and Willys have adopted this type of hood. The battery has been placed under the hood on the Ford, Hudson, Terraplane and Willys. An interesting hood construction is found on the new Willys, in which the hood and radiator grille are in one piece, the louvres at the front forming the grille proper.

Hydraulic brakes are now used on all cars with the exception of Ford, Lincoln, Pierce Arrow and Willys. Newest members of the hydraulic brake clan are the Packard 8 and 12, and the Cadillac V-16. The new type Ford brakes operate through cables in conduits and have controlled self-energizing action. The Ford hand brake lever has been taken off the floor and placed under the dash at the driver's left.

With the introduction of the Fisher all-steel body this year, all the General Motors cars, with the exception of the large Buicks and the Cadillac V-12 and V-16, will have this type of body. The new Ford has an all-steel top. The increased use of the all-steel body has brought on the need of body insulation to prevent vibration and drumming. Ford, Lincoln-Zephyr and all the Chrysler-built cars now have the bodies insulated from the frames by a liberal use of rubber.

Restrained from Selling Below Cost at Stations

LOS ANGELES, Nov. 14.—The second step by southern California retail gasoline dealers to clean up the local marketing situation was initiated the past week. The Retail Petroleum Dealers' Association obtained a temporary restraining order against a score of service station operators barring them from selling below cost.

The order was issued by Superior Judge Schmidt after a complaint on behalf of the association had been filed. The State Unfair Practices Act, which specifically prohibits selling below cost, will be used as the basis for this action.

In all, eight specific operators and twelve John Doe defendant operators were directed to show cause Nov. 23 why the restraining order should not be made permanent.

The dealers' association charges that some independent service station operators have been retailing gasoline at 12.5 cents a gallon, and that a survey showed the cost was 11.75 cents delivered at the station. The complaint asserts the operators cannot derive the cost of doing business from a margin of 0.75 cent per gallon.

The Los Angeles retail market situation was somewhat improved by the arrest of six men accused of tapping a discharge line running from a Wilmington refinery to the marine terminal. It is estimated that more than 250,000 gallons of gasoline from this source was distributed on the local market without payment of tax.

Ethyl Corp. Suspends "Q" Contract

Optional Method for 3 Months

By ARCH L. FOSTER
N. P. N. Staff Writer

SUSPENSION for 90 days of the optional method for testing octane rating was announced today by the Ethyl Gasoline Corp. in a telegram sent to each of its licensees.

The suspension is in effect on all blends made after the date of the telegram, Nov. 17.

This optional method was adopted by the company late in October, and involved a new so-called Low Temperature method, incorporating some details of both, the older Research method and the now standard Motor method.

The new maximum octane rating for non-premium fuels was to be 73, obtained by averaging the results of knock tests made by the Low Temperature method and the Motor method, the result being termed the Alternative method.

This plan, whereby refiners could choose the Alternative Method, was brought about, it is claimed, by discrepancies between the laboratory determination of octane number, and the manner in which cars on the road rate the fuels.

Because of claims by some refiners that their fuels, made up to 70 octane number by the use of lead fluid—the maximum permitted under their Ethyl contract—were depreciated by the Motor method when compared with competitive fuels not so depreciated, the Ethyl Gasoline Corp. carried out a long series of road tests which resulted in the formulation of the Alternative Method. By this method the maximum rating for leaded non-premium fuels is raised to 73. This increase in the maximum claimed to represent the difference between road performance of fuels and the laboratory rating by the Motor method.

A storm of protest rose from refiners, who state that this increase under the Alternative method is greater than the differences shown between fuels by road test and Motor method test. While individual estimates of the increase vary, it appears that the Alternative method raises the actual rating from one to two, or averaging about 1.5 octane numbers.

Consequently, refiners must increase the actual rating of their fuels by that amount by the use of Ethyl fluid or otherwise, hence the protest. Refiners point out that this plan really increases the amount of lead required by them and thus the amount that would be sold by the Ethyl company.

Meanwhile the Co-operative Fuel Research Committee of oil and automotive engineers met in New York two weeks ago, dissolved all subcommittees, it is reported, and organized a program group under the chairmanship of D. P. Barnard, of Standard Oil Co. of Indiana, to work out a plan for study of the test methods.

This group worked out a plan last week at the American Petroleum Institute meeting in Chicago, by which it will collect all available road test data from refiners' and automotive laboratories. These data will be studied to correlate laboratory with road results, with as much dispatch as possible. The group expects to complete a report and have a recommendation for the main committee at its annual meeting in January as to the next procedure.

Presumably this recommendation can be any one of three actions:

1. Retain the Motor Method "as is".

2. Make changes in the method, as indicated by the data now being collected, provided the data are in sufficient agreement.

3. Recommend a new series of road and laboratory tests, comparable to the Uniontown test program, to work out changes in the method which will put its results into agreement with car performance.

Whatever the final outcome of the Ethyl contract proposal and the revision of the Motor method efforts may be, one desirable result will be that, whatever discrepancy exists between the present method and road performance should be well ironed out by the committee's investigation, bringing the Motor method into still better agreement with the new engines and their handling of present-day fuels.

Some well-informed technologists believe that the method should not be revised before 1938, giving a period of five years between revisions. The action of the Ethyl Corp., however, has crystallized the situation to such an extent that revision during 1937 seems highly desirable, either from the data and conclusions of the program group and the CFR Committee, or through a new series of co-operative road tests. Because of the expense and time required for the road tests, refiners naturally hope the CFR Committee may be able to recommend suitable revisions from the data now being collected and correlated.

The revision of Ethyl contracts relating to a division of the two-cent premium between refiner, jobber and dealer is unchanged.

The text of the telegram sent by the Ethyl Gasoline Corp. to its licensees reads;

"Our purpose in extending to our licensees the option of using the mean of the Motor method and the Low Temperature method of octane rating for the evaluation of lead treated fuels was to enable our licensees, if they so desired, to correct the inequalities shown to exist between the Motor method ratings of fuel and their average performance in cars on the road, especially during intermediate and low atmospheric temperature conditions.

"Our meetings with licensees

in Chicago evidenced two things; one, there was no question about the validity of our data regarding the inequalities shown by our report to exist between the Motor method ratings of fuels and their average performance in cars on the road; and two, that a number of our licensees' laboratory ratings under the optional method are at substantial variance with those obtained in our laboratory and outlined in our report.

"In view of these variations in results, we hereby suspend for 90 days the Optional method of testing referred to in our letter of Oct. 27, relative to the use of 'Q' compound, such suspension to be effective as to all blends made after today.

"During this period of suspension we will co-operate with all interested parties in an effort to overcome the technical difficulties which appear to be involved in the practical application of the Low Temperature test method. A similar telegram is being sent today to all our manufacturing licensees."

State Operated Oil Terminal Considered By N. Carolina

By A. M. PETTY
N. P. N. Staff Writer

By Telegraph
RALEIGH, N. C., Nov. 16

THE Barker Commission has taken under advisement the question of recommending that the state of North Carolina acquire and operate its own oil terminal.

With Chairman Oscar Barker, of Durham, presiding, the gasoline terminal commission held a public hearing today at the state capitol here. First to appear was A. S. Browder, state purchasing officer.

Browder said that North Carolina is now buying its gasoline requirements, amounting to 10,000,000 gallons annually, at a price which figures out to less than tank car for tank wagon delivery.

One contract is with The Texas Co. for 40 counties at 6.15 cents off service station, while another, awarded to Standard of New Jersey in October for 60 counties, is at a flat price of 14.30 cents, including 6 cents state tax, Browder said. The Standard contract figures out to about 6.2 cents off service station and contains a provision giving the state the benefit of any decline in tank wagon or tank car prices, he added.

Wilmington interests pointed out that oil companies now have terminals and storage for about 41,000,000 gallons of gasoline at that port. They suggested that the state could lease its storage requirements, if it has decided not to continue buying from the oil companies as in the past.

Fayetteville, a hundred miles upriver from Wilmington, suggested that the state buy its gasoline f.o.b. Wilmington and barge it to Fayetteville, distributing it from there to interior North Carolina.

Morehead City and Southport have also put in bids for the proposed state terminal.

Another proposal before the commission is that a pipeline be built from Wilmington, or some other port, to Raleigh.

Regardless of the commission's recommendation, which will be laid before the state legislature meeting in January, North Carolina is still a long ways from going into the gasoline business.

Besides obtaining an appropriation for the terminal and additional tank trucks, there is also the matter of pumps and tanks at the 1600 delivery points where such facilities are now owned by the oil companies and leased to the state.

Another deterrent is the low gasoline prices which North Carolina is now obtaining. State Purchasing officer Browder told the commission they were "unusually low" prices for a consumer.

Grand Jury Reconvenes In Madison Nov. 30

MADISON, Wis., Nov. 16.—In the first week of December the industry's attention will return to Madison, Wis. The federal grand jury investigating oil marketing will reconvene Nov. 30 and the corporate appearances under the indictment charging conspiracy on tank car markets are set for Dec. 1.

Reconvening of the federal grand jury comes one day before the present term expires. Although a jury is called for a specific court term federal statute gives the court the power to extend the jury's term to complete unfinished business and matters pending.

The grand jury, recessed Nov. 13 to Nov. 30, was called for the December, 1935, court term. Extension of the jury would likely be a matter to come before the court Nov. 30.

Since the grand jury began its petroleum investigations May 4 four criminal indictments have been returned. Two charged perjury in the testimony of a witness. The other two named numerous companies and individuals charging anti-trust law violations on tank car markets and on agreements to restrict jobber margins.

Chicago Hearing Continued

CHICAGO, Nov. 17.—Third continuance of the removal hearing of Chicago defendants to the oil conspiracy indictment handed down July 28 by the federal grand jury at Madison was granted by U. S. Commissioner Edwin K. Walker here today. He advanced the hearing date to Dec. 15.

Tulsa Hearing Continued

TULSA, Nov. 17.—Removal hearings set for Nov. 17 for five oil men in the first conspiracy indictment returned by the federal grand jury at Madison, have been continued to "sometime after Dec. 1" by Commissioner Smith, following receipt of telegraphic request for such action from the Department of Justice. The commissioner has requested the department to set a specific date for the hearings.

Enrollment Starts Under Old Age Pension Section of Security Act

By A. M. PETTY
N. P. N. Washington Bureau

WASHINGTON, Nov. 14

THE gigantic task of enrolling some 26,000,000 workers for the old-age benefit system under Title VIII of the Social Security Law will begin Nov. 16, with distribution of forms to employers throughout the United States.

These forms, known as SS-4, will be delivered by postal employes to every place of business, regardless of whether it is a single establishment or a branch with headquarters elsewhere. Employers will be required to fill out and return a separate form for each establishment by Nov. 21. These forms constitute applications for assigning an identification number to each employer.

On Nov. 24, similar applications will be distributed through the post office department to every employe in the country.

The Internal Revenue Bureau has just issued a 54-page pamphlet, entitled Regulations 91, containing general instructions and regulations covering payment of taxes under Title VIII. Generally speaking, the administrative provisions and definitions in the new regulations are substantially the same as those issued earlier this year for Title IX (unemployment-compensation). (See NPN, March 18, 1936, pages 17-20).

But there are many basic differences between these two sections of the Social Security Law.

Title IX, which sets up a program for payment of benefits during protracted unemployment, is a joint federal-state venture. Full burden of the plan is borne by employers employing eight or more persons. The rate of tax for 1936 is one per cent of the total payrolls of such employers. It is a federal tax but employers in states with unemployment-compensation laws may take credit (but not more than 90 per cent of the federal tax) for amounts paid under the state law. Unless an extension of time is granted, 1936 taxes will be due and payable Jan. 31, 1937. The rate for 1937 will be two per cent, and for 1938 and thereafter will be three per cent annually.

The old-age benefit system set up in Title VIII is entirely a federal proposition. No state laws or co-operation is required. The burden will be borne jointly by employer and employe. Every employer in the United States is included, regardless of the number of individuals in his employ.

However, if an employe receives more than $3000 as remuneration for services performed during any calendar year for an employer, only the first $3000 received from such employer is subject to the employes' tax and the employers' tax for that year.

How to Get Copies of Regulations

COPIES of regulations covering Title VIII, of the Social Security law, which applies taxes on every employer and employe in the U. S. effective Jan. 1, 1937, may be obtained from the nearest internal revenue collector's office.

Copies may be also obtained by writing to the Superintendent of Documents, Washington, D. C., and asking for "U. S. Treasury Department, Regulations 91 relating to Employes' Tax and Employers' Tax Under Title VIII of the Social Security Tax." Send 10 cents in coin or money order for each copy; the government will not accept stamps.

The tax on each employe is measured by the wages he receives, and each employer is taxed on the sum of the wages he pays his employes (subject to the above-mentioned $3000 limitation). The rate for 1937 will be one per cent for the employe and one per cent for the employer.

Each employer is required under Title VIII to withhold the tax on employes at the time they are paid their wages. Amounts so withheld, together with the tax on the employer, must be paid by the employer to the internal revenue collector for the district in which the employer's principal place of business is located.

Tax returns under Title VIII are required monthly, the first return, for January, 1937, will be due Feb. 28, 1937.

INFORMATION returns will also be required under Title VIII, reporting the taxable wages which are paid each employe. First of these will cover the six-month period from Jan. 1, 1937 to June 30, 1937, and will be due July 31, 1937. Thereafter, information returns will be filed on a quarterly basis.

Besides these returns, the employer will be required to make an information return for each of his employes who attains the age of 65 or dies before reaching 65. Such returns will have to be filed within 15 days after the employe's 65th birthday or the date of death.

The necessary forms for such returns will be available at offices of internal revenue collectors.

Employes are not required to make returns under Title VIII.

Every employer liable for the tax is required to keep records of all remuneration paid to his employes after Dec. 31, 1936, for services performed for him after that date. Such records must show for each employe:

Name and address of the employe and the number assigned by the federal bureau to the account of the employe (under forms to be mailed out).

Occupation of the employe.

Total amount (including any

sum withheld therefrom as tax or for any other reason) and date of each remuneration payment and the period of service covered by such payment.

Amount of such remuneration payment which constitutes wages subject to tax.

Amount of employes' tax withheld or collected with respect to such payment, and, if collected at a time other than the time such payment was made, the date collected.

If the total remuneration payment and the amount thereof which is taxable are not equal, the reason therefor must be made a matter of record.

No particular form of records is prescribed, but such data must be preserved for at least four years.

The classes of employment excepted from Title VIII do not entirely coincide with those excepted from Title IX on unemployment-compensation.

Excluded from both Title VIII and Title IX are the following classes of employment: farm labor; domestic service in a private home; officers and crews of documented vessels; employes of federal, state and local governments, and their instrumentalities; and employes of charitable and similar organizations.

Title VIII excludes, but Title IX does not, persons over 65 years of age and casual labor not in the course of the employer's trade or business.

Service performed by an individual in the employ of his son, daughter or spouse, and service performed by a child under the age of 21 in the employ of his father or mother, are excluded by Title IX, but not by Title VIII.

Stratford To License Pb S Sweetening Process

KANSAS CITY, Mo., Nov. 12. —Stratford Development Corp., of Kansas City, has announced that it has been appointed by Standard Oil Co. of California as exclusive licensing agent for the lead sulfide process for sweetening straight-run and cracked gasolines.

Mid-Cont. Executives In New Positions

TULSA, Nov. 14.—Theodore R. Goebel has resigned as executive assistant in the Skelly Oil Co. here to become superintendent of the natural gas and natural gasoline department of the Shell Petroleum Corp. in the Mid-Continent. He assumes his new duties Nov. 23.

Appointment of J. F. Nagle as his successor has been announced by Vice President C. C. Herndon.

Mr. Goebel, who is now serving his second term as president of the Natural Gasoline Association of America, is a native of New Jersey. Attracted to the southwest while stationed at Camp Bowie in war days, he returned after the Armistice and was employed in the accounting department of Sinclair Refining Co.

Theodore R. Goebel

J. F. Nagle

Later he was transferred to Tulsa and in 1922, he joined the Skelly organization as chief accountant. He became manager of the company's gas contract department and was active in drafting the present uniform gas contract. He has been executive assistant for approximately six years, his duties including the handling of all gas contracts and crude oil purchases and sales.

The promotion of Mr. Nagle comes after 13 years service with Skelly. Coming from a New York brokerage house where he had been a clerk, he became a roustabout and tool pusher in the oil fields. In 1923 he was employed by the Skelly company at Tulsa and sent to its natural gasoline plant at Van, Okla.

He was transferred to El Dorado, Kan., for two years and in 1925 was sent to Minneapolis as manager of the division sales office. In 1926 Mr. Nagle was returned to Tulsa to handle natural gasoline sales. Later he became manager of wholesale sales in Oklahoma.

Shipping Rates on Oil Soar on East Coast

NEW YORK, Nov. 16. — Asked prices in the open charter market Monday for Gulf to North Atlantic movement were 6 to 11 cents a barrel higher than those prevailing Nov. 6. Business in this market was almost at a standstill, traders said, as a result of the seamen's strike, which has caused most owners to keep their boats out of the market.

Two or three boats were reported available for open charter, at 35 cents a barrel for Gulf to North Atlantic movement. The last clean boat fixed in the week ended Nov. 14 was at 24 cents a barrel and the last dirty boat at 29 cents a barrel, traders said.

Bidding to Sell U. S. Qualified Under the Walsh-Healey Act

WASHINGTON, Nov. 14

THE shadow of federal regulation cast by the Walsh-Healey law has apparently frightened some companies which usually bid for fuel oil contracts awarded by the Treasury Procurement Division.

Some companies withdrew entirely from the fuel oil bidding this week. Others submitted cautiously worded bids, indicating they would not accept the contract if stipulations of the Walsh-Healey law were insisted on.

Among the few major companies submitting unqualified bids were Standard of Indiana and Standard of Ohio.

The Shell companies came out flat-footedly with the demand that they be granted exemption from the law, prior to the award of any contract to them. The reason for this demand was stated on the bid to be the law's requirement relating to the keeping of records and the broad application and relatively inelastic provisions thereof. Some local oil companies bidding were also unwilling to accept awards without such exemption.

Besides setting an eight-hour day and 40-hour week for employes engaged on a government contract, the Labor Department's regulations under the law require the keeping of detailed records which would be open to an "authorized representative" of the Secretary of Labor. Vagueness of the law's requirement that the contractor's plant meet certain safety requirements has also bothered some prospective bidders by its broad implications, it is understood.

Some companies sought exemption by limiting the amount they would supply under the contract so that the total would be less than $10,000. Others expressly declared that they would accept awards only if the aggregate were less than $10,000.

The stipulation embodying provisions of the Walsh-Healey law, which is now attached to each TPD bid, states that contracts for a "definite" amount not in excess of $10,000 are exempt.

There is some question whether this can be applied to TPD oil contracts. Neither the bid invitations nor the contract forms state definitely how much will be purchased thereunder. The TPD, it is true, does estimate requirements to be purchased under the different items; but there is no way of saying in advance how much the purchases will definitely amount to. Again, the price is not definite because it is based on posted prices subject to change; although a maximum or top price is included.

No ruling on this point has been made. But officials have informally expressed the belief that all so-called open or term contracts are subject to the Walsh-Healey law.

Unless the TPD yields to the demands of the companies that they be exempted from the Walsh-Healey stipulation, it may have difficulty in contracting for fuel-oil supplies in some areas. If there is a deadlock, the TPD may be forced to throw the matter back to the individual agencies and let them buy their supplies in open market.

While the bids this week were only for fuel oil, they forecast what may be expected when the gasoline bids are opened next week.

Uncertainty Is Shown in Bids On Pacific Coast Business

LOS ANGELES, Nov. 14

RESULTS of bids by Pacific Coast suppliers to the Bureau of Supplies, U. S. Navy Department, on 3,291,500 barrels of Bunker C fuel oil and 31,300 barrels of diesel oil for delivery during the first half of 1937, reflected slightly higher prices when compared with the current contract.

At the same time, uncertainty concerning application of the Walsh-Healey act on this business was manifest in qualifications attached to the bids.

Standard Oil Co. of California submitted its quotations on the assumption that a ruling interpreting the act appearing in PLATT'S OILGRAM was official. It quoted a statement appearing in the OILGRAM of Nov. 3, forecasting Labor Secretary Perkins' action of confining the provisions of the act to the refinery employes of oil companies and stated its bid was contingent upon the issuance of the ruling. Otherwise, its bid was limited to an amount of business not to exceed $10,000 in value, which is exempt from provisions of the act.

Shell Oil Co. included the qualification that its bids were made subject to exemption from the act, otherwise to be of no effect.

Associated Oil Co. made its bid subject to exemption from the act, otherwise limited it to $10,000.

Richfield Oil Co. offered a bid of 85 cents a barrel on 1,500,000 barrels of fuel oil to be delivered at San Pedro on condition that stipulations of the act be deleted from the bid.

It was generally believed

that these last three qualifications would void the bids and that they would be thrown out. Standard's qualification would not affect bids by that company, it was thought, in view of the Labor Department's ruling that the refining department of an oil company is under provisions of the Walsh-Healey act but that distribution and marketing departments are excluded.

FOR delivery of 291,500 barrels of fuel oil to points in Oregon, Washington, and California, exclusive of San Pedro, Standard and Union offered nearly identical bids, which were in line with list prices. With a few exceptions these bids were $1.15 a barrel for pipeline delivery to the dock.

Exceptions included a bid of $1.20 for barge delivery of 10,000 barrels to McNeil Island, Wash.; $1.00 on a 10,000-barrel delivery to Oakland, Cal. (Union quoted for delivery at Alameda); $1.05 on 1000 barrels for San Diego; $1.17 on 8000 barrels delivered by tank truck to Rockwell Field, San Diego; and $1.245 on 7500 barrels for tank car delivery to North Island, San Diego.

The Texas Co. submitted three bids for business to points other than San Pedro and was low in each case. On 15,000 barrels of fuel oil called for at Seattle, this company bid $1.045 in comparison to $1.15 by Union and Standard. On 40,000 barrels for Portland, its bid was $1.049 as against $1.15 for the other two bidders, and for the 8000-barrel lot at Oakland it bid $0.899 as against $1.00.

With Union the only other bidder on 95,000 barrels for delivery to Honolulu, at a price of $1.20, Standard was indicated for the business with $1.10. This was for delivery to three points by pipeline and tank car.

More active bidding was made on the 3,000,000 barrels of fuel oil called for at San Pedro and indications were that the business would be split among not less than three companies.

Shell offered the lowest bid with a price of 78 cents a barrel on 250,000 barrels. Its next offer was 81 cents on another 250,000 barrels and then 84 cents on 500,000 barrels.

Texas Co. bid 79.1 cents on 500,000 barrels, 79.4 cents on another 500,000, 80.4 cents on 200,000, 80.9 cents on 200,000, 81.9 cents on 200,000, 82.9 cents on 200,000, 84.3 cents on 200,000 and 95 cents on 1,000,000 barrels.

Union was indicated as likely to take 750,000 barrels with a bid of 80 cents. Its next offer was 81.5 cents on 250,000, then 83 cents on 500,000 and 85 cents on another 500,000. Associated bid 82.4 cents on 150,000 and 83.1 cents on 350,000 barrels. Richfield put in a price of 85 cents on 1,500,000 barrels.

Hancock Oil Co., Pacific Coast independent refiner, was also thought in position to get some of this business with a bid of 80.3 cents on 250,000 barrels. It also bid 83.3 cents on another 250,000. Petrol Corp., another California independent, bid 84 cents on 500,000 barrels. Standard offered a nominal bid of 95 cents on the entire quantity.

Practically no variation was made in quotations on the small quantity of diesel oil called for at this time. Current contracts which extend until July, 1937, are supplying the bulk of the diesel requirements.

Bids of $1.16 for barge delivery at San Pedro indicated the full posted price. On 3000 barrels for delivery to Oakland, the bid was $1.21.

In comparison with awards made under bids opened in May for the last half of 1936, the above prices show some strengthening. At that time The Texas Co. was low bidder on 2,000,000 barrels of fuel oil at prices ranging from 76.4 to 79.4 cents. Shell bid from 75 to 81 cents on 1,500,000 barrels and was awarded the contract on 1,000,000 barrels at a price range of 75 to 79 cents.

The Pacific Coast industry is also interested in the results of bids on approximately 380,000 barrels of fuel oil to the Japanese Navy. Specifications on this oil are considerably higher than the bunker C grade called for under the United States Navy tenders, and the prices are expected to be higher.

Bids on this Japanese business were called for ten days ago but were thrown out and new bids called for, presumably because the first were too high. Suppliers on the Pacific Coast had not heard the results of these bids, which were opened in Japan Nov. 13. One company indicated its offer was approximately 15 cents a barrel higher than for the U. S. Navy business.

Arthur R. Campbell

Re-elected secretary of the Louisiana-Arkansas division of the Mid-Continent Oil & Gas Association for a second term.

Mr. Campbell obtained his degree from Harvard and then for 15 years was with the U. S. Smelting, Refining & Mining Co. At the close of the war he came to Louisiana as a consulting engineer and acquired an interest in the oil business, engaging for eight years in drilling, contracting and oil production.

Then he spent four years with a lead and zinc association at Picher, Okla. and then returned to Shreveport to re-engage in the oil business.

Arthur R. Campbell

Left—Charles F. Roeser, independent producer of Fort Worth, president of the Independent Petroleum Association of America. Center—Harold B. Fell, executive vice-president, Independent Petroleum Association of America. Right—Russell B. Brown, general counsel, Independent Petroleum Association of America

Restricted Drilling on Program Of Independent Producers

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TULSA, Nov. 14

OUTSTANDING problems of the oil industry today will be analyzed and discussed by authorities during the seventh annual meeting of the Independent Petroleum Association of America, at Oklahoma City, Nov. 30 and Dec. 1.

The preliminary draft of the program shows this probably will be the high mark in meetings of this association, which came into existence in 1929 and is now well represented in every oil producing state.

Hotel people in Oklahoma City say advance registrations already point to a large attendance. The headquarters of the association and meetings will be in the Biltmore Hotel in that city.

The regular meeting of the Interstate Compact Commission will be held on the second day of the association's convention, Dec. 1.

Discussion and addresses will chiefly center upon what the association calls its "Five-Point Program," adopted at its last annual meeting. A broad purpose of this program is the balancing of supply with demand. It includes federal legislation to limit imports in a definite manner, action by state or industry on orderly withdrawals from storage, regulation of domestic production within the limits of national consumptive demand, orderly development of new pools, and provision for voluntary agreements within the industry.

Recently, as a further refinement of the two topics last named, Charles F. Roeser, president of the association and outstanding independent producer, has instituted discussion of restriction of drilling. It is his view that the present rate of drilling is too high and that considerable waste of capital occurs when the visible result of rapid development is the constant decrease in allowable production per well set by the state regulatory bodies.

Directors and members of committees will meet in Oklahoma City on Nov. 29. Besides the several committees which handle the business and administrative affairs of the association, committees on three important subjects will report at the morning session Nov. 30. These are the committees on balance of supply with demand, domestic asphalt, and royalties.

AN address by J. D. Collett, independent producer, of Fort Worth, will be heard at the luncheon meeting Nov. 30, at which Wirt Franklin, president of the association from its beginning until last December, will preside. Mr. Collett is president of the Mid-Continent Oil & Gas Association and was the last chairman of the Planning and Coordination Committee under the NIRA petroleum code. He will discuss the benefits to the industry which would come from the five-point program of the Association.

Oklahoma City is arranging a Petroleum Pageant of Progress and parade to be held the afternoon of Nov. 30. In the

evening, Frank Buttram, Oklahoma City operator, will preside at the annual dinner. Speakers are Gen. Baird H. Markham, director of the American Petroleum Industries Committee, on taxation, and Col. Ernest O. Thompson, chairman of the Texas Railroad Commission and chairman of the Interstate Compact Commission, who will discuss the interstate compact.

This dinner will be followed by a floor show and dance.

The rest of the program, now being completed but not announced, will include several speakers of prominence for the regular sessions of the convention. On Dec. 1 the visitors will be invited to attend the meeting of the compact commission.

The recently appointed subcommittee of the Independent Petroleum Association's Committee on Balance of Supply With Demand will meet in Tulsa Nov. 17 at the Mayo hotel to begin preparation of its report for the annual meeting. It will contain suggestions and recommendations pertaining to the subject of unnecessary and excessive drilling in proven fields.

R. E. Hardwicke, Hardwicke, Brelsford & Cheek, Fort Worth, is chairman of this subcommittee. Other members of the committee are: Don R. Knowlton, Phillips Petroleum Co., Bartlesville; C. E. Yeager, Texas Pacific Coal and Oil Co., Fort Worth; J. R. Pemberton, oil umpire, Los Angeles; W. P. Z. German, Skelly Oil Co., Tulsa; Villard Martin, Tulsa; A. S. Ritchie, McPherson Drilling Co., Wichita; C. P. McGaha, Fain-McGaha Oil Corp., Wichita Falls, Tex. and Van S. Welch, Flynn, Welch & Yates, Inc., Artesia, N. M.

Leonard Heads Devonian

TULSA, Nov. 16. — A. W. Leonard was elected president of the Devonian Oil Co., pioneer Mid-Continent producing company, at a meeting of the directors in Pittsburgh, Nov. 14. He succeeds the late J. H. Evans. Mr. Leonard, long prominent as a producer of oil and natural gas, has for several years been vice-president and general manager of the Devonian company.

Allowable for Texas Raised 18,639 Bbls.

By Teletype

AUSTIN, Texas, Nov. 17.—With the explanation that increases were necessary to prevent oil buyers from going to other states for their requirements, the Texas Railroad Commission has granted increased allowables to several pools in this state totaling 18,639 barrels daily, effective Nov. 14.

This amount, with normal increases which come through new wells, brought the daily total allowable for the state on that date to approximately 1,140,000 barrels. That is 30,740 barrels more than the basic allowable on Nov. 1, when the commission wrote an order conforming to Bureau of Mines recommendations.

The principal increase was 5000 barrels daily given to the Van pool, in east central Texas.

Hearing on Richfield Reorganization Plan

LOS ANGELES, Nov. 14.—A hearing on the fairness of the reorganization plan submitted by Consolidated Oil Corp. and Cities Service Co. for rehabilitation of the Richfield-Pan American setup, started Nov. 12 before U. S. District Judge James. An opportunity for all creditors, bondholders, and other interested parties to air their views will be provided.

At the start of the hearing it was stated that the reorganization committee represents more than two-thirds of the creditors and bondholders of the two companies who have approved the plan which provides for their merger with the Rio Grande Oil Co.

G. Parker Toms, chairman of the Richfield reorganization committee, the first witness, discussed the advantages to be obtained by creditors and bondholders through acceptance of the plan. He said the new company would rank among the first three in the business of distributing petroleum products on the Pacific Coast, if the plan is approved.

This witness also said the reorganized company would be adequately financed by the addition of from $15,500,000 to $20,000,000 new capital. This money would be used for the acquisition of additional oil production and for the rehabilitation of existing facilities.

Graydon Oliver, independent petroleum engineer, testified on an appraisal of the Richfield and Pan American properties for Rio Grande, setting $26,000,000 as the present day worth.

Although no opposition to the plan developed in these preliminary sessions it was indicated there would be before the hearing was completed.

Daily Average Production, Important Districts, American Petroleum Institute Figures

	Week Ended Nov. 14	Nov. 7
	Barrels	Barrels
Oklahoma City....	161,050	107,300
Total Oklahoma..	587,300	526,800
East Texas	441,350	440,550
Total Texas	1,134,650	1,156,700
Rodessa	56,200	56,900
Total Louisiana..	230,400	234,200
California	593,800	586,400
East of Rockies..	2,446,600	2,387,400
Total U. S.	3,040,400	2,973,800
Crude Imports....	118,140	108,570
Total New Supply	3,158,540	3,082,370

New Gasoline Plants

TULSA, Nov. 17.—Two new natural gasoline plants are being planned, one in Kansas and the other in the Texas section of the Rodessa field.

The Empire Oil & Refining Co. is to build an absorption plant in the Stone pool, near Burton, Kans.

The Cass-Liberty Gasoline Co. is being formed by officials of the American Liberty Oil Co., of Dallas, and Petroleum Engineering, Inc., of Tulsa, to build a well-pressure, absorption type natural gasoline plant on the former company's properties in the Texas section of Rodessa.

Free Competition, Fair Taxation Is Institute's 1937 Platform

By LAWRENCE E. SMITH
N. P. N. Staff Writer

CHICAGO, Nov. 14

AXTELL J. BYLES was re-elected president of the American Petroleum Institute during the 17th annual meeting held in Chicago this week.

First elected to this position in the summer of 1933, succeeding the late C. B. Ames, who had resigned, Mr. Byles was re-elected in 1934 at Dallas and in 1935 at Los Angeles.

The general policies relating to the oil industry which the institute may be expected to follow this coming year under President Byles' leadership may be glimpsed from the following paragraphs from his annual report to the institute membership:

"We believe in and shall support fair taxes levied on gasoline by the states, the proceeds of which are used exclusively for the construction and maintenance of adequate and safe highways.

"We shall continue to oppose unjust and discriminatory taxation, and the wasteful use and the diversion, to other than highway purposes, of the funds so raised.

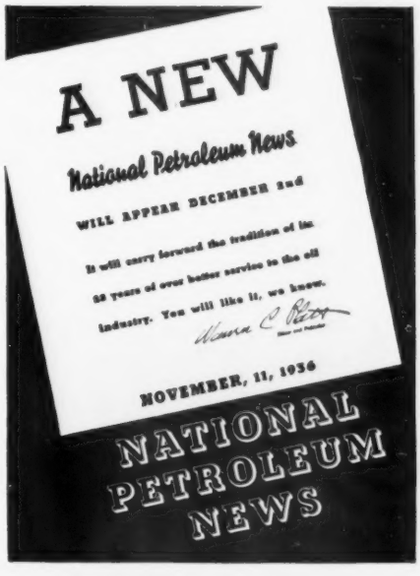
"This industry believes in a free competitive system. Its growth and progress and consequent service to the public are the result of this system. It believes in competition within and between industries. It does not believe in discriminatory legislation in favor of or against one industry for the alleged benefit of another. It knows that because such legislation is contrary to the public interest it cannot, in the long run, prevail.

"It believes that the public is entitled to the best service at the lowest economic cost; and that monopoly, either public or private, renders such service impossible. It believes in and desires to further co-operation among all industries for the common good."

Other staff officers of the institute were re-elected at the annual meeting. They are William R. Boyd, Jr., executive vice-president; Lacey Walker, secretary and assistant treasurer and J. S. Cooke, assistant secretary.

In vice-presidencies one change was made. W. S. S. Rodgers, president of The Texas Co., was elected vice-president for refining succeeding Jacob France, president, Mid-Continent Petroleum Corp. (See frontispiece this issue). Re-elected were George A. Hill, Jr., president, Houston Oil Co., vice-president for production; C. E. Arnott, vice-president, Socony-Vacuum Oil Co., Inc., vice-president for marketing and K. R. Kingsbury, president, Standard Oil Co. of California, vice-president at large. O. D. Donnell, president, Ohio Oil Co. was re-elected treasurer.

The mid-year meeting of the institute in 1937 will be held in Colorado Springs June 1-3. In most recent years the mid-year meeting has been held in Tulsa. The next annual convention will match the place and dates of the one just closed. Again, the Stevens Hotel will house the convention and Nov. 9-12 will be the dates.



OTHER re-elections were the chairmanships of two committees. F. A. Leovy, president, Gulf Oil Corp., heads the executive committee and D. E. Buchanan, president, Hanlon-Buchanan, Inc., is again chairman of the committee on membership.

The executive committee which will guide institute affairs for the next year in addition to Chairman Leovy includes: J. Howard Pew, president, Sun Oil Co.; E. G. Seubert, president, Standard Oil Co. of Indiana; H. F. Sinclair, chairman of the board, Consolidated Oil Corp.; W. C. Teagle, president, Standard Oil Co. of New Jersey, and R. G. Van Der Woude, president, Shell Union Oil Corp.

Directors of the institute traditionally hold long discussions in the privacy of their assembly place. Some years resolutions and announcements issue forth

in a steady stream. This time there were discussions, but not so extended; there were few resolutions. Their final session was called off altogether.

THE No. 1 topic before the body was that of restricting drilling. This is one of those subjects concerning which nobody can do anything immediately. It can merely be discussed. In recent weeks the talk began to grow. Charles F. Roeser, president of the Independent Petroleum Association of America, began the open assembly discussion in October and said then he would bring it to the attention of the institute directors. He, or somebody, did. The net result of the conversations by directors was the authorization of a committee, yet to be named by President Byles, to make a study and report on the savings and advantages of wider spacing for drilling wells and other features of restricted drilling.

No state authority can be invoked at this time to bring this about because no state has a law to restrict drilling. In fact, many question the wisdom of such legislation.

The avenue to the result desired was pointed by President Byles in his annual address. Much of the drilling in proved areas in recent years was brought on by the desire of operators to boost their allowable production in prorated fields. The more wells, the more potential and the greater the allowable.

President Byles urged that state regulatory bodies which fix the allowables take into full account the acreage factor. He urged nothing new; battles on this question have been vigorous for years and the courts of Texas have heard numerous suits involving this point. All the proposition means is that rewards for excessive drilling shall cease. If one well will recover the oil adequately from 10 acres no more will be drilled if the allowable be just as great for one well as for two or more.

Another outstanding question of the day is that of disposal of waste from oil industry operations, such as salt water from oil wells and unmarketable products from refineries. Federal legislation under the heading of stream pollution prevention seems certain to be proposed in the coming session of Congress. The institute has had several committees at work on waste disposal for 10 years past. Directors thought there should be closer tie-up of these committees. The institute president was authorized to appoint such a co-ordinating committee.

It is another tradition of the institute that the board of directors increases in size each year. The rule was again followed. Nine new and additional members were added, bringing the total to 105 regular and two ex-officio directors. Three new ones were elected to succeed those whose terms expired this year and one was elected to fill a vacancy created by death.

Axtell J. Byles, re-elected president of the American Petroleum Institute to serve his fourth term, at its recent meeting in Chicago

THE new additional members are: Ralph Pryor, producer, Wichita, Kans.; Amon G. Carter, publisher, Fort Worth; E. H. Moore, producer, Tulsa; W. M. Patterson, Frick-Reid Supply Corp., Pittsburgh; Harry Frueauff, Cities Service Co., New York; Earl Webb, Ethyl Gasoline Corp., New York; N. C. McGowen, United Gas Public Service Co., Houston; P. H. Curry, South Penn Oil Co., Pittsburgh and I. A. O'Shaughnessy, Globe Oil & Refining Co., Minneapolis.

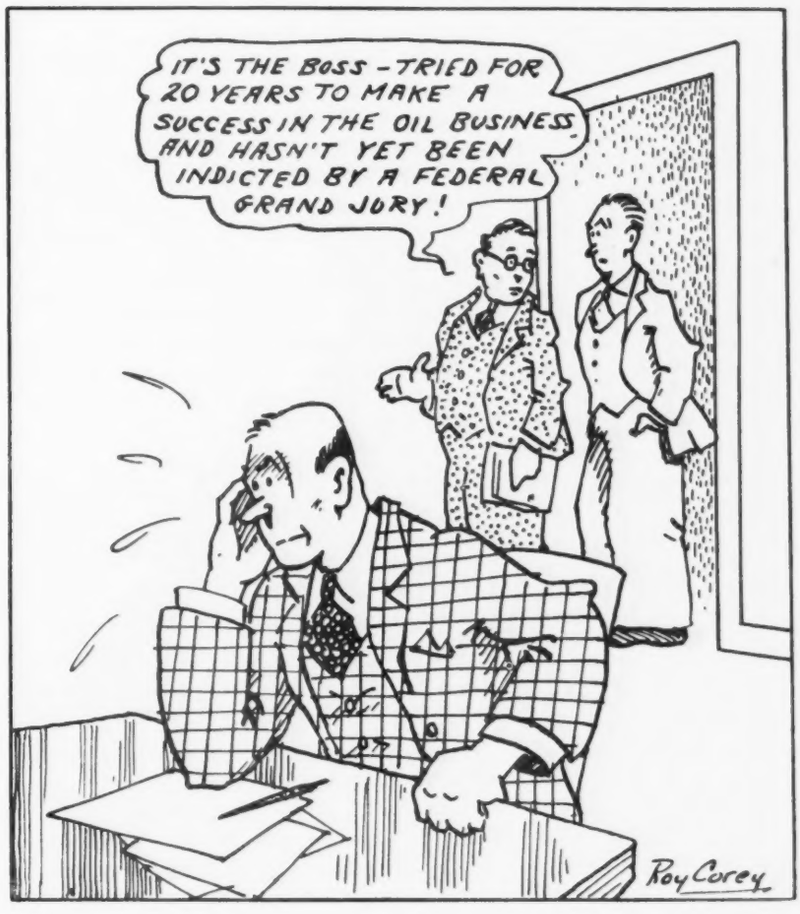
New members who succeeded others are: H. Wilkinson, Asiatic Petroleum Corp., New York, to take the place of J. C. Van Eck, Shell Union Oil Corp.; W. J. Morris, Continental Supply Co., Dallas, to succeed A. A. Moody, Jarecki Manufacturing Co., St. Louis and J. D. Creveling, Panhandle Eastern Pipe Line Co., to succeed William Moeller, Jr., Southern California Gas Co., Los Angeles.

H. R. Straight, Empire Oil & Refining Co., Bartlesville, Okla., was elected to fill the va-

cancy created by death of P. M. Miskell.

Fifty-three other members of the board up for re-election were continued in office.

The three major divisions of the institute operate under vice-presidents and the activities planning is carried on by that officer with the aid of committees of 25 for each group. Each division itself elects 20 members, the institute president appoints five. Make-up of these committees for the coming year is as follows:


IT'S THE BOSS - TRIED FOR 20 YEARS TO MAKE A SUCCESS IN THE OIL BUSINESS AND HASN'T YET BEEN INDICTED BY A FEDERAL GRAND JURY!
Roy Corey

Marketing

Members elected by the division: W. T. Atkins, Skelly Oil Co., Kansas City, Mo.; W. C. Burns, Richfield Oil Corp. of N. Y., New York; J. W. Carnes, Sinclair Refining Co., New York; J. D. Collins, Tide Water Oil Co., New York; R. K. Davies, Standard Oil Co. of California, San Francisco; H. W. Dodge, The Texas Co., New York; W. P. Durkee*, Shell Oil Co., San Francisco; S. B. Eckert, Sun Oil Co., Philadelphia; Frederic Ewing, Socony Vacuum Oil Co., Inc., New York; H. D. Frueauff, Cities Service Co., New York; B. I. Graves*, Associated Oil Co., San Francisco; Allan Jackson, Standard Oil Co., (Indiana), Chicago; V. H. Kelly, Union Oil Co., of California, Los Angeles; R. W. McDowell, Mid-Continent Petroleum Corp., Tulsa; George C. Morris, The Pure Oil Co., Chicago; C. G. Sheffield, Standard Oil Co. of New Jersey, New York; C. S. Smith, National Refining Co., Cleveland; H. A. Trower, Phillips Petroleum Co., Bartlesville, Okla.; W. G. Violette, Standard Oil Co., (Kentucky), Louisville, Ky.; W. C. Yeager, The Atlantic Refining Co., Philadelphia.

Appointed by President Byles: W. H. Ferguson, Continental Oil Co., Denver; W. V. Hartmann, Gulf Refining Co., Pittsburgh; B. L. Majewski, Deep Rock Oil Corp., Chicago; E. B. Reeser, Barnsdall Corp., Tulsa; and Charles L. Suhr, The Pennzoil Co., Oil City, Pa.

Refining

Members elected by the division: C. R. Barton, Tide Water Oil Co., New York; C. B. Buerger, Gulf Refining Co., Pittsburgh; W. F. Burt, Socony-Vacuum Oil Co., Inc., New York; Fayette B. Dow, National Petroleum association, Washington; R. W. Hanna, Standard Oil Co. of California, San Francisco; G. W. Hanneken*, Standard Oil Co. (Ohio), Cleveland; C. L. Henderson, The Vickers Petroleum Co. of Delaware, Wichita, Kan.; F. E. Holsten, Barnsdall Refining Corp., Tulsa; Emby Kaye, Skelly Oil Co., Tulsa; W. F. Lowe, Natural Gasoline Association of America, Tulsa; W. W. Lowe*, Cities Service Co., New York; K. G. Mackenzie*, The Texas Co., New York; Walter Miller, Continental Oil Co., Ponca City, Okla.; G. G. Oberfell, Phillips Petroleum Co., Bartlesville, Okla.; M. G. Paulus, Standard Oil Co. (Indiana), Chicago; C. F. Smith, Standard Oil Co. of New Jersey, New York; W. L. Stewart, Jr., Union Oil Co. of California, Los Angeles; G. H. Taber, Jr., Sinclair Refining Co., New York; G. H. Van Senden, Shell Oil Co., San Francisco; C. B. Watson, The Pure Oil Co., Chicago.

Members appointed by President J. Byles: C. M. Boggs, The Kanotex Refining Co., Arkansas City, Kans.; W. M. Irish, The Atlantic Refining Co., Philadelphia; H. A. Logan, The United Refining Co., Warren, Pa.; Jacob France, Mid-Continent Petroleum Corp., Baltimore; J. Howard Pew, Sun Oil Co., Philadelphia.

Production

Members elected by the division: A. M. Blow, Amerada Petroleum Corp., Tulsa; Blaine B. Westcott*, Gulf Research & Development Co., Pittsburgh; C. Bunje, Jr., Illinois Pipe Line Co., Findlay, Ohio; R. E. Collom, Continental Oil Co., Los Angeles; C. P. Dimit, Phillips Petroleum Co., Bartlesville, Okla.; A. C. Rubel*, Union Oil Co. of California, Los Angeles; R. B. Kelly, Pure Oil Co., Fort Worth; W. L. Connelly*, Sinclair Prairie Oil Co., Tulsa; C. H. Lieb, Carter Oil Co., Tulsa; M. E. Lombardi, Standard Oil Co. of California, San Francisco; W. L. McLaine, General Petroleum Corp. of California, Los Angeles; John R. Suman*, Humble Oil & Refining Co., Houston; W. M. O'Connor, Atlantic Refining Co., Philadelphia; Burt E. Hull*, Texas Pipe Line Co., Houston; R. B. Pringle, Tide Water Oil Co., Tulsa; F. O. Prior, Stanolind Oil & Gas Co., Tulsa; J. H. Russell, Gulf Oil Corp., Houston; D. R Snow, Barnsdall Oil Co., Tulsa; A. W. Ambrose*, Empire Companies, Bartlesville; and T. E. Swigart, Shell Petroleum Corp., Houston.

Members appointed by President Byles: J. Edgar Pew, Sun Oil Co., Philadelphia; O. D. Donnell, Ohio Oil Co., Findlay, Ohio; E. L. Smith, E. L. Smith Oil Co., Mexia, Tex.; Ralph B. Lloyd, Lloyd Corp., Ltd., Los Angeles; C. H. Kountz, Sinclair Refining Co., Independence, Kan.

*New members.

*New members.

*New members.

Research on Production Problems Reported at Institute Meeting

CHICAGO, Nov. 14

HARD-WORKING as always, production engineers and field men from all parts of the country held numerous meetings during the annual convention of the American Petroleum Institute in Chicago this week.

They planned the work of the institute for the coming year in their branch of the industry, heard reports of activities during 1936 and listened to technical papers on the multi-phase business of developing oil fields.

The objective of these men is briefly stated. Their job is to find ways of getting the most oil out of a sand at the least cost. They seek to discover how natural energy in a reservoir may be made to do the best possible work of moving oil through the sand into the hole and up the casing or tubing. They learn all they can about the numerous factors surrounding and influencing the ideal performance of this energy and they must know also about the design of equipment which will harness the natural energy.

Grouping the papers on production subjects presented at Chicago under the two broad headings, natural and mechanical, authorities on their subjects read papers as follows:

Giogenesis of Petroleum:—This formidable term means transformation of organic material into petroleum by bacterial action rather than purely physical - chemical processes, such as destructive distillation. It all happened a long time ago but researchers are finding out about it now.

Lewis A. Thayer, of Centenary College, Shreveport, reviewed the pros and cons of the two theories and found something to say on both sides, gave a comprehensive bibliography. He said, " . . . petroleum is so many different things that the origin of all of them from a single source material and by a uniform process is precluded; conversely, there is room for its formation in a number of different ways under different sets of conditions."

Kettleman Hills:—B. H. Sage and W. N. Lacey, California Institute of Technology, gave the results of their work on formation volumes and energy characteristics of gas-cap material from the Kettleman Hills field. They sampled gas and liquid taken from the trap of a well high on the structure, studied them at different pressures and temperatures. They found indications that a "mixture of the samples in the same proportions as would correspond to the operating gas-oil ratio of the well sampled, when brought to equilibrium at conditions of temperature and pressure comparable to those existing in the gas sands, would be substantially all in the form of a gas phase."

Source Beds:—Drillers refer to a sand as "good-looking" or the opposite. Sometimes that which looks good is barren. Something more definite than this is needed in finding new fields. Sourse beds are essential for the formation of an oil field—the accumulated oil has had to come from some definite place. The U. S. Geological Survey and the American Petroleum Institute have worked jointly for some years at investigating this broad subject.

Parker D. Trask and H. Whitman Patnode, both of the U. S. Geological Survey, Mr. Patnode being also a research associate of the institute, reported progress in "Means of Recognizing Sourse Beds." Thousands of samples have been studied. Eight characteristics of "mother rocks" of petroleum are given attention and of these, four give promise of being useful means of recognizing source beds. The four are volatility, degree of volatility, carbon-nitrogen ratio and nitrogen-reduction ratio. The last named was described by the authors as being particularly encouraging; all four of being worth much additional study.

Connate-Water Content of Oil Sands:—Howard C. Pyle and P. H. Jones, Union Oil Co. of California, described methods used by them in determining connate-water content. Connate-water is that which is in the sand with the oil naturally, not that which enters because of withdrawal of oil. It is not easy to analyze core samples and determine how much water was originally present, for contamination by water from drilling mud usually occurs in some degree.

Authors Pyle and Jones told of using dextrose as a tracer for measuring the contamination, found in a sample tested that 38 per cent of the pore space in the sand was filled with water native to the formation. This is not given as true of all sands. The paper was valuable for its description of methods used.

Flowing Wells:—This is dear to the heart of every production man. Wells that flow a long while are the ones that pay dividends, from both low-cost and high recovery standpoints. Emory Kemler, Gulf Oil Corp., Tulsa, and G. A. Poole, Gulf Oil Corp., Odessa, Texas, investigated the data gained from 34 tests on flowing wells in West Texas. They announced as their conclusions that gas-oil ratio has a greater effect on pressure differences in the tubing than does the tubing size or rate of flow. Ratio of free gas to amount of gas in solution is also an important factor.

Analysis of Oil Sands:—Increasing attention is being paid to investigation of oil sands, both in new and old fields. The practical question asked is how much oil is there. Kenneth B. Barnes, Gulf Oil Corp., Tulsa, described the methods used in analyzing sand samples to find not only how much oil is present but how much of it can be recovered. The factors of porosity, saturation and permeability are determinable in several ways and within reason-

able limits of accuracy. Mr Barnes, long experienced in this work, told how such determinations are made.

Sub-surface Samples of Oil:—Important in planning production methods is knowledge of the character of fluid in the reservoir. Difficulty in getting what is wanted has been lack of equipment to take the sample and keep it intact until it can be analyzed. Paul G. Exline, Gulf Research and Development Co., described newly developed equipment capable of being set up in a field laboratory.

Oil Well Pump Dynagraph:—Walton E. Gilbert, Shell Oil Co., Los Angeles, told of an instrument which is used at the bottom of a well to record the action of plunger pumps. "In securing satisfactory operation of a pumping well, it would seem desirable to distinguish clearly between the performance of the pumping equipment and the performance of the well itself—considering the latter both with regard to individual possibilities and with regard to the part of the well should play in the general scheme of economical withdrawal of oil and gas from a given producing zone," said Mr. Gilbert. " . . . It may be anticipated with some confidence that devices located at the well head, such as fluid-level finders and polished-rod dynagraphs, will ultimately provide all necessary information for efficient regulation of oil well pumps. However, the study of pumping conditions, with use of instruments located at the pump, is essential as a preliminary step toward this objective, and should lead to improvements in equipment and operating control."

Steel:—Several papers on the materials which go into the oil field equipment of today were heard. William Howard Clapp, California Institute of Technology, critical of claims made for steels on basis of mechanical testing, pleaded for a rating of steels on the basis of dependability, which rating can come only from actual trials under working conditions. Jerome Strauss and A. W. Demmler, of the Vanadium Corp. of America, gave characteristics of vanadium steels used or now available to the oil industry. Molybdenum alloys were described by John E. Wilson, Climax Molybdenum Co.

S. B. Settle, Parkersburg, Rig & Reel Co., reviewing the present practice of determining capacities of A. P. I. derricks, said there was need of further investigation to establish a more correct method of rating derricks so that safe load capacities would be commensurate with the strength of the leg sections.

T. McLean Jasper, A. O. Smith Corp., spoke on "Importance of Compression Yield Strength in Establishing Setting Depth for Casing."

A Good Kindling Pile, But No Fatalities

(International News Photo)

Two explosions in rapid succession, followed by fire, demolished the Canadian Oil Co.'s bulk plant at Quebec. Six tanks were wrecked and neighboring houses damaged. The National Refining Co., which controls the Canadian company, was unable to give the cause of the explosion. Damage to plant and stock were reported at $35,000 by the company. There were no injuries or fatalities, according to the National Refining Co.

'Iowa Plan', With Price Protection Left Out, Will Bring Stability

By E. L. BARRINGER
N. P. N. Staff Writer

CHICAGO, Nov. 12

EXPERIENCE with the "Iowa Plan" of retailing gasoline and its future, and the industry's truck transportation problems were highlights of the marketing group sessions during the annual American Petroleum Institute meeting this week in Chicago.

C. E. Arnott, vice president of Socony-Vacuum Oil Co., Inc., institute vice-president for marketing, in opening the "Iowa Plan" group sessions, knitted marketing into the general structure of the industry when he told his audience that chaos in marketing will be felt within the industry right down to the bottom.

In view of the general optimistic spirit regarding the industry's stability which prevailed during the meeting, the warning pointed to marketers that instability in their branch of the industry would have its effect on the refining and producing market structures.

Mr. Arnott's remarks sketched the industry's code experience down to the proposed code now being studied by the Federal Trade Commission. He expressed hope for a unity of effort, as marketing problems are mutual among refiners, jobbers and dealers.

A three-way discussion—one paper by a jobber, another by a refiner and a third by a dealer—at the group session on the dealer marketing plan produced these three significant opinions:

By the jobber: elimination of price protection, paring of jobber's operating costs, will produce marketing stability.

By the refiner: the dealer marketing plans should be extended to cover major company bulk plants, giving the jobbers same opportunity as dealers under the new decentralized plan of marketing.

By the dealer: probably the outstanding result of the "Iowa Plan" will be making the dealer more cost conscious.

Necessity for jobbers to pare their operating costs was emphasized several times in the address by Charles Putnam, Putnam Service Co., Council Bluffs, Ia., who already has used a sharp pencil twice on his company's operating expenses to meet lower margins.

"One of the shrewdest plays to eliminate price cutters is to set margins that will allow us to stay in business if we sharpen our pencils and cut operating costs," he said.

Again, he charged that "if majors will once and for all withdraw price protection then we will have stable markets."

Another angle to price protection expressed by Mr. Putnam was that, in his opinion, when the dealer marketing plan is extended down, without price protection, the industry will have stability in marketing prices such as it has not had before.

Charles F. Putnam, president of Putnam Service Co., Council Bluffs, Ia., a speaker on the "Iowa Plan" from the distributor's viewpoint at the marketing session Nov. 11 *of the American Petroleum Institute meeting at Chicago*

As for the "Iowa Plan" itself, Mr. Putnam charged that major companies offered no help in having service stations made exempt when the Iowa chain store tax bill was before the legislature. Mr. Putnam was a representative in the session that voted chain store taxation.

"It seemed to me that the majors knew what was going on but didn't give a damn," he charged, relating how, after a two-thirds vote in both houses was necessary for reconsideration, major companies poured a horde of employes all over the capitol building and grounds to protest classification of service stations as chain stores.

Investigation of result of the plan, he continued, showed that there was no improvement in working conditions at stations. In fact, employes were working longer hours, fewer men were employed, and wages had been reduced, he stated.

Stability to retail markets in Iowa was not caused by the "Iowa Plan," he related, as states to which the dealer marketing program had not been extended enjoyed during that period the same stability as did Iowa markets.

The retailers' view of the dealer marketing plan was presented by Wilmer R. Schuh, president of the National Association of Petroleum Retailers.

Mr. Schuh pointed to the rearrangement of the retail price structure, now built up from the supplier's price to resellers, which he said was making the retailer more cost conscious in arriving at his retail price.

A plea for recognition that time will be required to enable dealers to meet their new market responsibility was made by Mr. Schuh who reminded marketers, "You cannot expect us as dealers to learn in one or two months, or even in a year, what it has taken some of you 20 years or more to learn."

Eight definite conclusions given by this speaker were:

"That the dealer must be educated so that he clearly understands the dealer marketing plan.

"That it is to his best interests that he be allowed to control his own price.

"That the industry generally wants a profit, and that the dealer is definitely a part of the industry.

"That the object of the plan is not to encourage dealers to cut the price.

"That the suppliers, both refiner and jobber, have a moral responsibility to assist and guide the dealer organizations.

"Do your part to impress upon each one of your dealers his responsibility under this plan.

"Encourage them to organize an association, or to join the local association if a constructive one already exists.

"That only by intelligent and constructive concerted effort can this plan be made most effective."

The refiner's view on the dealer marketing plan was discussed in a paper by B. L. Majewski, Deep Rock Oil Corp., Chicago, reviewed on page 46 of the Nov. 11 issue of NATIONAL PETROLEUM NEWS. It was his suggestion that the plan be extended to the leasing out by the major companies of their bulk plants to jobbers.

During this same group session Willis Crane, National Petroleum Association, Washington, discussed legislation affecting marketing.

Two trends or consummation of trends were noted by the speaker. One trend is the driving of manufacturers out of distribution. Chain store and social security legislation were cited as examples of legislation bringing this about. The other trend is laws that interfere or deal with methods of doing business, such as the Robinson-Patman and the Walsh-Healey acts.

The group session on automotive transportation was presided over by Leo Huff, Pure Oil Co., Chicago.

Development of transportation of products from bulk plants was traced by C. Wesley Boag, the Heil Co., Milwaukee, in a paper amply illustrated by photographs of the ancient, middle ages, and modern eras of transportation vehicles, linked to the types of products sold and to the distribution problems solved by improved transportation. (See accompanying review)

An analysis of tank truck design was presented in the paper of R. Cass, the White Motor Co. Before the paper got into specific problems there was a discussion of appearance, practical operating and safety, and diesel trucks. See accompanying review)

The paper noted the possibility of the diesel engine reducing fuel costs but reminded that "the prospect of higher maintenance cost to some extent offsets this, and the insistence of maintaining high-schedule speeds under modern traffic conditions may eventually result in an unfavorable reaction from the public if a large number of diesel trucks are used on the streets."

The third paper reviewed problems of the trucking industry and was presented by Ted V. Rodgers, president, American Trucking Association.

Continuation of speedy, flexible, personalized transportation service at reasonable rates is desired by responsible shippers the paper stated. Truck safety was stressed also as the paper reviewed efforts of the trucking industry to reduce accidents.

C. Wesley Boag, of the Heil Co., Milwaukee, a speaker on the development of the tank truck at the recent meeting of the American Petroleum Institute in Chicago

A common interest of petroleum and trucking industries in tax matters was noted as the paper cited cases of various annual taxes on trucks in some states amounting to more than the actual value of the trucks.

Another point of mutual interest noted in the paper was that of combating propaganda from railroad offices detrimental to the trucking industry.

History of Tank Truck, From Kerosine Era

CHICAGO, Nov. 9.—The history of the tank truck from the early stages, when kerosine and gasoline were handled in cans, cases, and drums, and in horse-drawn wagons, up to the present day streamlined unit, was described and profusely illustrated in a paper, "The Truck Tank", by C. Wesley Boag, of the Heil Co., Milwaukee, to be presented before the annual meeting of the American Petroleum Institute here Nov. 9 to 12.

The paper, which included many historical views of early day transportation units, pointed out the distribution demands that brought the tank wagon into use and traced the evolution of the unit through to the present.

The tank wagon came into use about 1902, according to the author, and during its short life had an interesting development. At first kerosine was the product hauled, but soon there began to appear on the wagons extra cans and auxiliary tanks. These were to accommodate gasoline, a product just coming into commercial use.

Among the early developments included cab refinements, new bucket box locations, a tank wagon hand pump, modern running gear, and multiple tank compartments. It was in the year 1912, according to Mr. Boag, that the horse-drawn tank wagon reached its maximum development.

The truck, or commercial car, quickly followed the automobile into the American scene

and, similarly, the tank truck took the place of the horse-drawn wagon. Prior to the truck era, Mr. Boag said that experience of operators showed that a tank wagon, with driver and helper, could handle about 500 gallons and cover 10 to 15 miles per day.

He pointed out that, as early as 1910, experiments were made with acetylene gas in constructing welded tanks and that, in 1914, the first welded tank was built. It was a 3-compartment, 375-gallon tank mounted on a Buick truck.

In the truck tank development between 1916 and 1936, Mr. Boag pointed out three distinct trends, service, safety, and appearance.

Standardization Cited As Means To Cut Truck Operating Costs

CHICAGO, Nov. 10

SIMPLIFIED truck tank design, the slow growth of diesel engines, and the consideration of driver comfort as an aid to safety, were among the points brought out by R. Cass, White Motor Co., Cleveland, speaking before the American Petroleum Institute meeting here Nov. 10.

The title of the paper was "Analysis of Truck Design With Specific Reference to Tank Trucks."

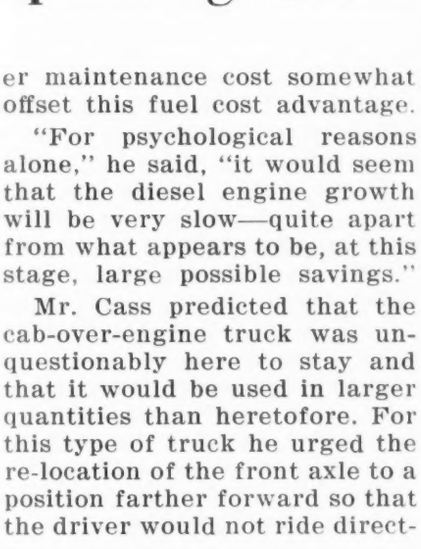
Of the present streamlined tank trucks Mr. Cass said that we have gone all the way from a simple conventional truck design to the most modern design, with advertising as the first consideration. He stated that, while it is impossible to evaluate the worth from an advertising standpoint of these modern designs, "it is my personal opinion that the first cost involved, as well as the operating cost from a maintenance standpoint, may ultimately outweigh the advertising consideration."

With modern motor trucks having a remarkably high wear life and low maintenance cost, compared to the trucks of five or six year ago, Mr. Cass said it is difficult to see what materials and new designs can do to bring about any considerable reductions from the point of view of the cost of replacements and repairs.

He pointed to the diesel engine as a possibility in this connection, but added that its higher maintenance cost somewhat offset this fuel cost advantage.

"For psychological reasons alone," he said, "it would seem that the diesel engine growth will be very slow—quite apart from what appears to be, at this stage, large possible savings."

Mr. Cass predicted that the cab-over-engine truck was unquestionably here to stay and that it would be used in larger quantities than heretofore. For this type of truck he urged the re-location of the front axle to a position farther forward so that the driver would not ride directly over the axle. This was claimed to be an aid to driver comfort, which is necessary to safe operation of the truck. He also urged the use of cab doors of the rear-opening type as an aid to safety.



Leo Huff, manager of the motor transport division of the Pure Oil Co., Chicago, to preside at the marketing group session Nov. 10 of the institute meeting at Chicago

The advantages of six-wheeler vs. semi-tractor units were discussed, the speaker emphasizing "the six-wheeler is not as far out of the picture as present usage seems to indicate".

"The question of tank mountings," said Mr. Cass, "naturally brings to the fore the possibility of doing away with tank mounting altogether, and by that I mean a situation in which one has a frameless design and the tank and the cab are designed integral and with necessary brackets to attach the units, such as engine, transmission, axles, springs, etc.

"There seems to be no doubt that reduction in weight can be made by such a design, but the initial experimental outlay is such as to make manufacturers hesitant about considering such designs. One has also to visualize a standardization of tank design—which at least in its exterior will permit a degree of interchangeability—which now exists when a tank is moved from one truck to another.

"If we may assume that the life of a tank is much longer than that of the average life of the chassis, it should be possible also to design the tank in such a way that replacement units can be used, and virtually a new tank truck be placed in service again.

"I am convinced that some sort of progress along these lines will be made in the next few years, but the manufacturers will have to have some direct encouragement from the operating departments before much progress is made. It will necessitate a collaboration between the tank manufacturers and the chassis manufacturers. Certainly, the method used at the present time of selecting a chassis and then having a tank mounted on it by the manufacturer, without any collaboration between the two, is not conducive to the best results.

"There may be many reasons, and very adequate reasons, why

it is not possible to standardize the tanks on the trucks— and I am referring now to compartment sizes. Certainly, it should be possible to standardize on the external dimensions for each size; and it would seem that ultimately the business of marketing of gasoline in this country will have become somewhat stabilized to such a point that even compartment sizes can be reasonably standardized, if the advantages of such standardization are real and apparent."

It was explained that one of the possibilities for still further improvement in truck engine design is in cylinder-wall life. Mr. Cass said that it was generally conceded that the accelerated cylinder wear at the top end of the cylinder is primarily due to corrosion.

The use of heat treated dry liners for cylinder walls was mentioned as a wear preventative, but the repair and replacement problem was said to be a difficult one.

It was pointed out that the experiments on main and connecting-rod lead bearings were not complete enough to warrant any conclusions. With this type of bearing, as well as with cadmium-tin, cadmium-silver, and lead-bronze, a heat treated and hardened shaft must be used to get proper wear life and this represents a relatively large increased cost, Mr. Cass said.

It was stated that great improvements have been made in babbitt bearing material, "and that had the babbitts now available been available two years ago, lead-bronze bearings would have had very little part in the general scheme".

Mr. Cass said there was room for research in truck lubricants, particularly in the development of a "stable extreme-pressure lubricant which will remain in proper solution under relatively high working temperatures".

"One of the contributions that the operating departments of the oil companies can make is to achieve among themselves the highest degree of standardization of the parts which are necessary for oil-tank operation," he stated. "This refers, of course, to pumps, power take-off positions, and the tanks themselves. By so doing, it will enable the truck manufacturer, in turn, to make changes in his designs of trucks intended for the oil industry—which may reduce the first cost or, conversely, better service conditions and, therefore, lower maintenance cost.

"No striking reductions can be made in operating costs per truck-mile unless there are some radical changes in design; and, therefore, in the next few years the savings which have been possible in the past in the basic cost per mile will be very small in comparison with former years." Mr. Cass concluded.

1.4 Years Are Added To Life of Car

CHICAGO, Nov. 14.—The average passenger-car life today was estimated to be 8.4 years, as against an older estimate of 7.04 years, by Marcus Ainsworth of Automotive Industries, Philadelphia and A. L. Clayden, of the Sun Oil Co., Philadelphia, at the annual meeting of the American Petroleum Institute here, in an analysis of passenger-car registrations. The average age of cars in use was estimated to be 4.71 years, as compared with 3.07 years at the end of 1924.

A new "survival" or "life" curve for passenger cars was presented, which, according to the authors, was essentially that shown in 1935 by John Scoville, chief statistician for Chrysler Corp., with a few minor changes. The curve is similar to that of Prof. Griffin, of Michigan University, prepared in 1926. it was stated.

Principal changes in Scoville's curve were the slight lowering of the rate of mortality of the car during the first five or six years of its use and an increase during its last declining years. The data used, given in Table 1, was freely admitted by the authors to be subject to controversy but was believed to be a reasonably correct picture of the situation at the end of 1935. Accurate computation was said to be impossible, due to registration methods.

It was pointed out that, in 1935, practically no cars were being manufactured requiring less than a 68 to 70 octane fuel, and that the proportion requiring more than 70 octane was very small.

An analysis made on the basis of figures available at the end of 1936 will show a very considerable increase in the 70-octane class, it was stated.

Figures were given also on the rise in demand for extreme-pressure lubricants. Refining for the years 1930 to 1934 inclusive on the basis of the new total estimates and adding the year 1935, gave the following data on cars in use bearing extreme pressure, lubricant recommendations:

Year	Number
1930	48,560
1931	62,321
1932	53,658
1933	33,491
1934	570,608
1935	1,210,137
Total	1,978,775

Table 1.—Number and Percentage of Total Cars in Use—by Years of Manufacture

(As of Dec. 31, 1935)

Year of Manufacture	Per Cent Surviving	New Registrations	Number Surviving	Per Cent of Total
1935	99.5	2,743,908	2,730,188	15.26
1934	98.7	1,888,557	1,864,006	10.42
1933	97.5	1,493,794	1,456,449	8.14
1932	95.1	1,096,399	1,042,675	5.83
1931	92.0	1,908,141	1,755,490	9.81
1930	85.0	2,625,979	2,230,082	12.46
1929	75.0	3,880,206	2,910,154	16.26
1928	55.0	3,139,579	1,726,768	9.65
1927	34.5	2,623,538	905,120	5.05
1926	19.0	3,228,401	613,396	3.43
1925	10.0	3,870,744	387,074	2.16
1924	5.0	3,303,646	165,182	0.92
1923	2.3	3,753,945	86,341	0.48
1922	1.0	2,369,089	23,691	0.13
Total surviving			17,896,616	100.00

Long Term Oil Research Program Essential to Industry's Health

By ARCH L. FOSTER
N. P. N. Staff Writer

CHICAGO, Nov. 13

THE American petroleum industry needs a comprehensive, far-sighted research policy to blaze the trails for its progress into the distant future, if it is to survive as a lusty industry, if it is to accomplish the achievements which the future will toss into its lap.

This conviction was urged by at least two different speakers, on two different occasions, during the American Petroleum Institute's meeting last week in Chicago. Neither speaker knew what the other had in mind.

The first authority to urge this most important long-time policy was Dr. Hugh S. Taylor, of Princeton University, an internationally known investigator in the field of petroleum research.

Dr. Taylor expressed the opinion that the periodic "get-together" the past few years of technologists, in connection with the present institute research program and the discussion of mutual problems and the probable means needed to pursue their investigation was of greater value to the industry than were the specific facts unearthed by the researchers during the prosecution of this program.

The industry must support the broadest kind of general research policy, Dr. Taylor believes, if its personnel is to reach and maintain the higher standards of training, knowledge and foresight which are absolutely indispensable to the vigorous program of development.

Empirical methods must be superseded by processes based on a knowledge of fundamentals which must be discovered by extensive and intensive exploration in the realm of science, he appears to believe, if we are to judge from the general tenor of his able discussion. The colleges cannot offer this type of training within the present limits of Ph.D. requirements, he said. The training therefore must be obtained from specialized post-Ph.D. work in the different fields.

The Rockefeller Foundation apparently feels that its work in promoting research and the industrial trend toward correlation of pure and applied science in the training schools is rapidly drawing to a close and has accomplished its purpose. The industry, to take advantage of and to continue the renaissance of science in America which has been so thoroughly started on its way by the Foundation and the National Research Fellowships, must systematize, finance and give impetus to continuation and enlargement of this movement already well under way.

The second leader to discuss, independently of Dr. Taylor, this vital question believes that the American oil industry should have a systematized, co-ordinated forum, or organization for the supervision, direction and correlation of fundamental research. Dr. G. H. Coxon, of the Anglo-Iranian Oil Co., of England, before the American members of the British Institution of Petroleum Technologists meeting in Chicago in connection with the institute meeting, urged that America have a sort of super-research organization, interested primarily in the exploration of fundamental principles which underlie the immediate and future problems of petroleum technology. Such an organization should look far into the future of the industry and what it will need to know to direct the energies and the manufacturing processes of the next generation, he indicated. It should work on the problems of tomorrow, not wrestle with the specific troubles of today. Coxon seems to be convinced. Europe has too many racial, political, and commercial barriers to succeed in such a program, he stated. In view of these separately expressed, but essentially identical, conclusions of these two forward-looking scientists, the result of Rossini's research work on the constituents of petroleum, Ipatieff's outline of the possibilities of catalysis in unlocking petroleum's secrets and the problem of cracking and other manufacturing processes take on an added significance as the industry swings an era of increasing returns after the Seven Lean Years just past.

Composition of Heavy Fractions

The question whether present refining processes discard some desirable constituents of lubricating oils will be answered conclusively from forthcoming more definite knowledge of the actual molecules present in the lubricating-oil fraction, according to F. D. Rossini, National Bureau of Standards, who is in charge of the institute's Research Project 6.

The work on the project so far has yielded the following information concerning the constituents of a dewaxed, solvent-extracted, Mid-Continent petroleum: The oil consists substantially of naphthene (cycloparaffin) hydrocarbons with from one to four rings per molecule, with paraffin side chains and it contains no paraffin hydrocarbons. This work has pointed the way to two important studies, he said.

In one of these studies there is being investigated the "extract" of "sulfur-dioxide-soluble" portion of the original fraction, following a procedure

somewhat analogous to that used on the "water-white" oil. Valuable data are expected from this investigation, especially regarding the aromatic constituents.

In another study a closer approach will be made to the separation of pure hydrocarbons from lubricating oil. A separation of 600 fractions of "water white" oil of about 15 to 20 grams each has been attained. These fractions were said to be probably nearer to pure hydrocarbons than any fractions hitherto obtained from lubricating oil. Each was about one forty-thousandth part of the original crude petroleum.

Having been separated according to size of molecules, the fractions were then subjected to a separation with respect to type of molecule, by extended extraction with acetone in 14-meter (46-foot) glass columns with reflux.

Two important points were noted in connection with the properties of a series of fractions obtained from the subjection of a charge of "water-white" oil (especially of the lower molecular-weight range) to the extraction process. There is little change in the molecular weight, indicating a good job in separation of material according to size of molecules; and the carbon-hydrogen composition, viscosity, density, and refractive index change markedly from the first to the last of the fractions, indicating a good job of separation of molecules according to type.

From 30 selected "key" fractions several conclusions were drawn.

1. Of the lower molecular weight fractions (about 28 carbon atoms to the molecule) the least soluble (raffinate) fractions consisted substantially of one-ring naphthene (cycloparaffinic) hydrocarbons, and the more soluble fractions consisted of naphthenes with two or three rings per molecule.

2. Of the higher molecular weight fractions (about 37 atoms per molecule) the least soluble fractions consisted substantially of two-ring naphthenes (cycloparaffins), and the more soluble fractions consisted of naphthenes with three or four rings per molecule.

3. The most soluble fraction in each series appeared to contain some unsaturated hydrocarbons and a considerable amount of one-ring aromatic hydrocarbons.

4. No evidence was found for the presence of *iso* or branched-chain paraffins in the "water-white" oil.

From this information it may be concluded that, when the lubricant fraction of a dewaxed Mid-Continent petroleum is treated by one of the modern solvent-extraction processes, the lubricating oil produced contains no paraffin hydrocarbons, and consists substantially of naphthene (cycloparaffin) hydrocarbons with from one to about five rings per molecule, together with appropriate paraffinic side chains. Highly-processed, solvent-extracted lubricating oils from Mid-Continent crude would, therefore, appear to be composed of saturated cyclic hydrocarbon molecules having an appreciable number of the carbon atoms in paraffinic side chains.

Catalysis is Science's Key

The catalyst is the Philosopher's Stone to transmute the limitless store of crude hydrocarbons into the gold of finished chemical products for the use of the human race, according to the implications in the paper of V. N. Ipatieff, of Universal Oil Products Co. and Northwestern University, on the "Rational Utilization of Petroleum". This eminent authority on catalysis summarizes the various types of catalysts and catalytic reactions which have been or may be applied to hydrocarbons for synthesizing commercial products for which uses exist, or may be found, in the nation's economy.

To give some idea of the tremendous potentialities of catalysis for the industrial utilization of petroleum hydrocarbons, the author outlined the several types of reactions which may be accomplished or promoted by the use of catalytic agents. Among these are: polymerization, general and selective; depolymerization; hydrogenation and dehydrogenation; molecular cleavage; hydro-polymerization; depoly-alkylation; alkylation and destructive alkyzation; isomerization; and cyclization.

By the use of these various reactions may be built up an unknown but prodigious number of products, the author indicated. He showed how cellulose is broken up by enzyme action to produce hydrogen in one case, and methane in the other. This field of the use of "vitalism" in utilizing petroleum for many products is one for the distant future, he stated, and expressed the hope that, in the future, the petroleum industry will find ways and means to use these processes and aids for the synthesis of as yet unknown products. The immediate application of catalysis to petroleum processes lies in the field of inorganic catalysts rather than the enzyme, which he refers to as an *organic* catalyst.

Cracking and Chemical Development

Crude petroleum to the amount of 1,227,000,000 barrels per annum was saved to the industry and the nation by the use of cracking processes in 1935, according to Dr. Gustav Egloff, Universal Oil Products Co., in summarizing the economic significance of cracking. This saving is due to the greater production of gasoline per barrel of crude by means of cracking. More than two billions barrels of crude would have been required to produce the 432,000,000 barrels of gasoline consumed that year, if produced only by straight run

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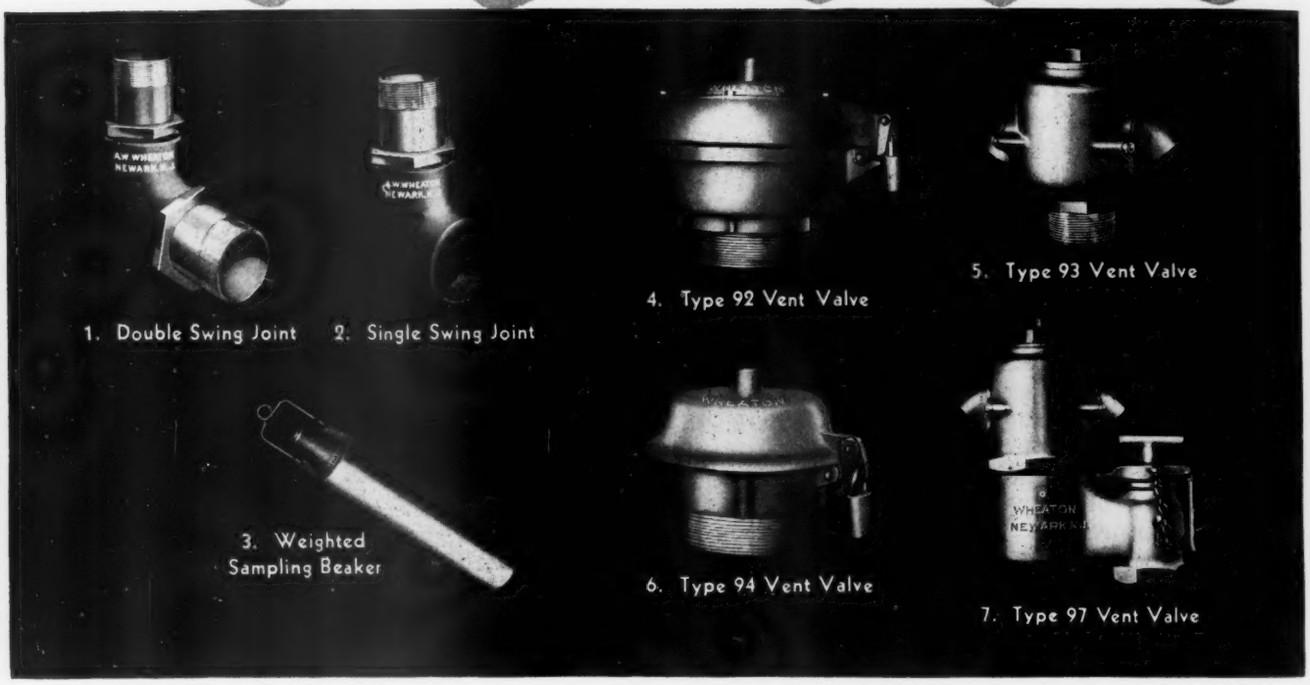
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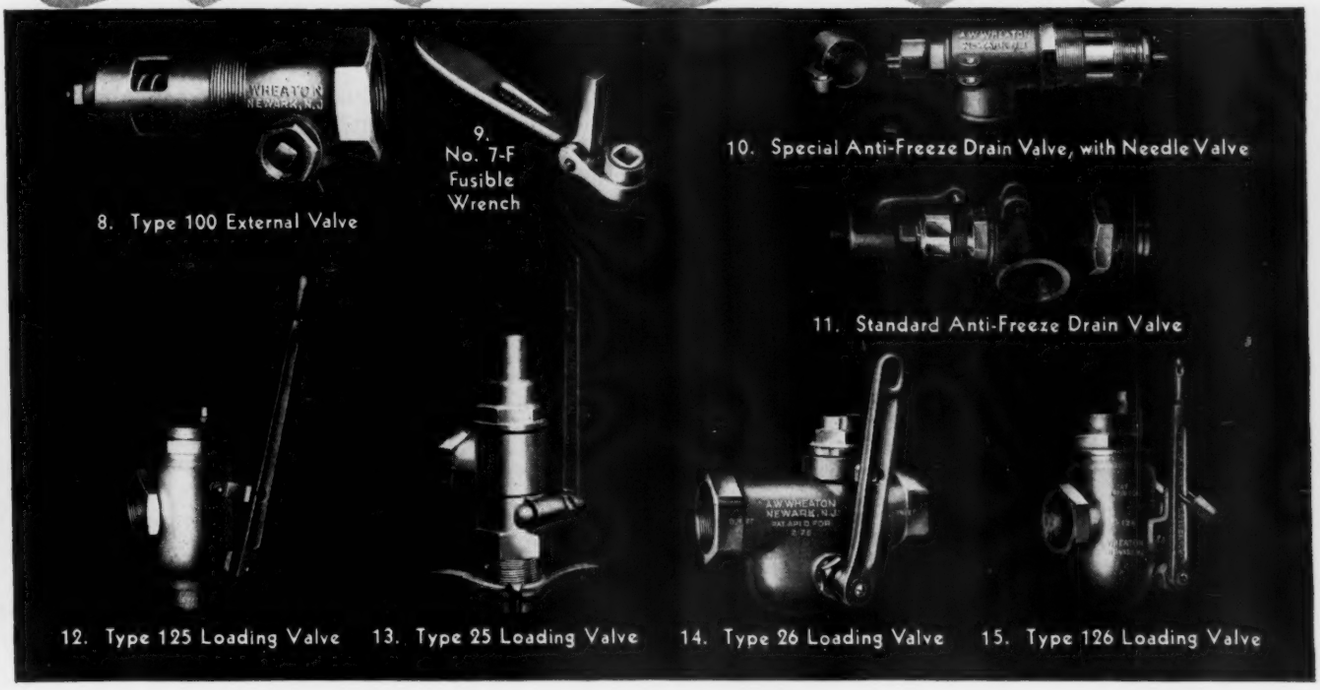
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methods, he brought out.

In addition, the production of motor fuels by polymerization units now in operation, construction or being designed, both catalytic and thermal processes can produce more than 300,000,000 gallons of gasoline per year (17,150,000 barrels), to further conserve 53,000,000 barrels of crude on the same basis. To produce the additional crude required without cracking and polymerization would have cost the industry one and one-half billions of dollars, Dr. Egloff pointed out, in addition to a doubled rate of oil reserves depletion.

The rapid development of the industry and its demands for equipment and chemicals have added largely to the growth of business for the steel industry, chemical production, instrument making, and all types of materials used in plants. An estimate of $10,000,000 per year for chemicals, as dyes, anti-oxidants and color stabilizers alone, is made. A fast-growing synthetic chemical industry is being built up around cracked hydrocarbon gases, which includes alcohols, gums, resins, rubber substitutes, ethers, synthetic intermediates. Lubricating oils of very high properties are synthesized from cracked gases. Highly specialized fuels, such as ethers, are already in commercial production, made from still gases. A plant for manufacturing sulfuric acid from the sulfur in cracked gases is in operation in California, the author stated.

Cracking and the by-products from it affect also other industries, such as the gas industry, coal, and other fuels, the cracking still products of gas and coke competing directly with these other fuels, he stated.

Combating Corrosion

Considerable experience has been gained in combating corrosion in refining equipment, to reduce the estimated $125,000,000 loss per year from that cause, Arthur Marks, consulting engineer of New York, finds in summarizing the information contained in voluminous reports to the American Petroleum Institute on corrosion prevention.

Neutralization of corrosive constituents in petroleum fractions by chemicals appears to be the most economical method of reducing or eliminating corrosion, he decided. He divides corrosion into two groups, the high temperature, direct chemical action type, which occurs mainly in distillation equipment, and the low temperature, electrolytic type, in the presence of water.

Under high temperatures sulfur and its compounds are the most highly reactive substances, their reactivity being a function of the temperature and pressure existing in the system. The author uses the heat of formation of the various sulfides as a measure, in inverse ratio, of the tendency to corrode various metals; copper sulfide has the lowest heat of formation, and therefore copper is corroded most seriously by sulfur. Heat of formation of aluminum sulfide is highest of the group mentioned, with iron sulfide next to the highest value, thus iron is less subject to sulfur corrosion than the softer metals, lead, copper and nickel.

Correspondingly, heats of formation of the oxides of the metals used in alloys show that aluminum, chromium, titanium silicon and tin are least affected by oxidation, and their further study in developing corrosion-resistant alloys is recommended. Carbon-molybdenum tubes for high temperatures and little corrosion seem to give the best service life. Chrome-moly. tubes, where temperatures and corrosiveness are both high, show the best results according to the institute reports.

As neutralizers, soda ash,

German Oil Men on U.S. Tour

Six members of the oil industry in Germany visited the refinery of the Tide Water Oil Co. at Bayonne, N. J., among other industrial plants in this country. They are all dealers, some of them purchasing their supplies through the Tide Water distributor in that country, Hamburg Amerikanische Mineralol G.m.b.h. In the group, left to right, are Otto Lietz, Rudolph Greiser, Fritz Stenzel, Ludwig Mueller (in the front row), Erner Spangenberg, Max Heydkampf

Two chapters

Tulsa, Oct 25 . . . Sunray Oil Corporation reports for the 9 months ended Sept 30, profit was $474,014 after depreciation, depletion, lease abandonments, etc., but before federal income and other taxes, compared with a profit of $207,297 in the same 1935 months—
CHICAGO JOURNAL OF COMMERCE, *Oct 26, 1936*

That's a pleasant story, but let's look at an earlier chapter

Waxy gas oil, the by-product of a vacuum asphalt distillation, was the chief factor which led the Sunray Oil Company to install the latest type Dubbscracking unit in its refinery at Allen, Oklahoma The asphalt found a market and brought a good price but the gas oil proved too heavy a load to carry—the price received from it was not profitable—NATIONAL PETROLEUM NEWS, *December 5, 1934*

Sunray installed a Dubbscracking unit in 1934

Sunray made profits on its refining operations in 1935

—and more profits in 1936

And so can you—with Dubbscracking

Universal Oil Products Co
Chicago Illinois

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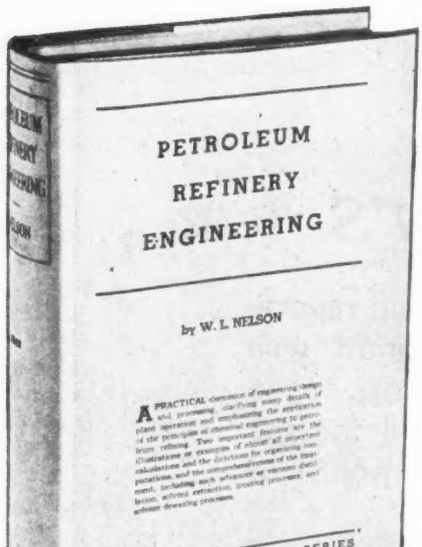

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—how to determine what products can be produced from raw oil stocks, what their properties will be, the amount of each, approximate temperatures, pressures, etc., to be used in plant operation.
—laboratory data pertaining to plant design, engineering, and operation.
—complete compilation of the physical properties of oil stocks.
—theory of cracking, correlating the fundamental data.
—plant processing. Organizes the distillation operations, showing similarities and differences in operations and raw stocks.
—design of heat exchangers.
—multiple-draw fractionating towers, with particular attention to temperatures at various plates.

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National Petroleum News
1213 W. 3rd St. Cleveland, Ohio

caustic soda, and lime are used, lime showing the best results overall as to costs and attendant disadvantages, which are less important with lime. However, lime sometimes affects adversely the fuel oil specifications where it is used, increasing ash, and showing other disadvantages. Doubtless one of the reasons for the advantage in using lime is the high heat of formation, that is the stability, of calcium sulfide formed in the neutralization reaction, it was brought out.

The consumption of lime shown by the reports ranged usually from 0.1 to 1.5 pounds per barrel of crude charged. On a Kansas crude as low as 0.02 pounds proved sufficient. Caustic soda was used to the extent of 0.09 to 0.25 pounds per barrel. Corrosion was reduced by 25 per cent to practical elimination of all corrosive effects, by this treatment, it was reported. Caustic embrittlement is caused if too much soda is added, and is one serious failure of steel in a chamber. Because of the instability of ammonium compounds, ammonium hydroxide or liquid ammonia is of no appreciable service, although useful in the low temperature ranges of the still units.

The "solution pressure" of metals may be reduced by the addition of other metals to form alloys. For instance the author observes that the addition of 14 to 20 per cent of silicon reduces the solution pressure of iron and thus prevents the iron passing into solution, that is, reduces corrosion of the iron. Addition of chromium and the reduction of carbon content of steel also reduces corrosion by reduction of this tendency to chemical reaction, which is referred to as solution pressure.

Allis Consultant

C. J. Fechheimer has been named consulting engineer on the staff of the Louis Allis Co., Milwaukee. Mr. Fechheimer is nationally known as an author and lecturer on electrical subjects as well as an inventor.

Oil-Field Brine Disposal Needs Further Study

The various subsurface disposal projects for oil-field brines now in operation are still in the experimental stage, it is stated in Report of Investigations 3318, published by the Bureau of Mines. The report is a continuation of the Bureau's co-operative agreement with the Kansas State Board of Health dealing with the Arkansas river drainage area in Western Kansas. A previous report (R.I. 3297) dealt with this problem in the Ritz-Canton field, McPherson County, Kansas.

It is indicated that studies of the conditioning of brine should be encouraged as it is under exceptional conditions only that unconditioned brine can be injected into subsurface formations without clogging by materials held in suspension.

The principal method of disposing of the water produced with oil in the district studied is to impound it on the lease. Impounding brines in ponds is said to be an ineffective method of disposal likely to produce contamination of water supply. On the other hand stream surveys indicated that the high mineral content of the Arkansas river and its tributaries is due more to drainage of salt marshes and industrial wastes than from producing oil fields.

The production of water is expected to increase and the problem of brine disposal will become more serious and increase the possibility of mineralization of fresh water supply, it was concluded.

Start Synthetic Gasoline Plant

LONDON, Oct. 18.—The first two units of the British synthetic gasoline and smokeless fuel enterprise of Low Temperature Carbonization, Ltd., have just been lighted up at Bolsover in a 3-week test run. The plant is the fourth erected by the company. By the first of the year the four will be producing annually 12,000,000 gallons of gasoline and coal oil and 380,000 long tons of solid fuel from a daily consumption of 1600 long tons of coal.

Soil Study Must Augment Pipe Corrosion Data

WASHINGTON — Results of Bureau of Standards tests of non-ferrous pipe materials indicate that pipeline owners must study soil conditions in order to select the pipe material that will most economically meet the requirements, K. H. Logan, soil corrosion expert of the bureau has announced.

After examining 6500 specimens of non-ferrous pipe materials which had been buried under ground for various periods of time, Mr. Logan stated that "while most of these non-ferrous materials corrode less rapidly than steel in most soils, I cannot say that any one material appears to be superior to all others under all conditions." In all, about 9000 specimens were buried, and 2500 are still in the ground.

Unfortunately, it was stated, the rates of corrosion of each material differ so greatly under different conditions that generalizations are of little practical value.

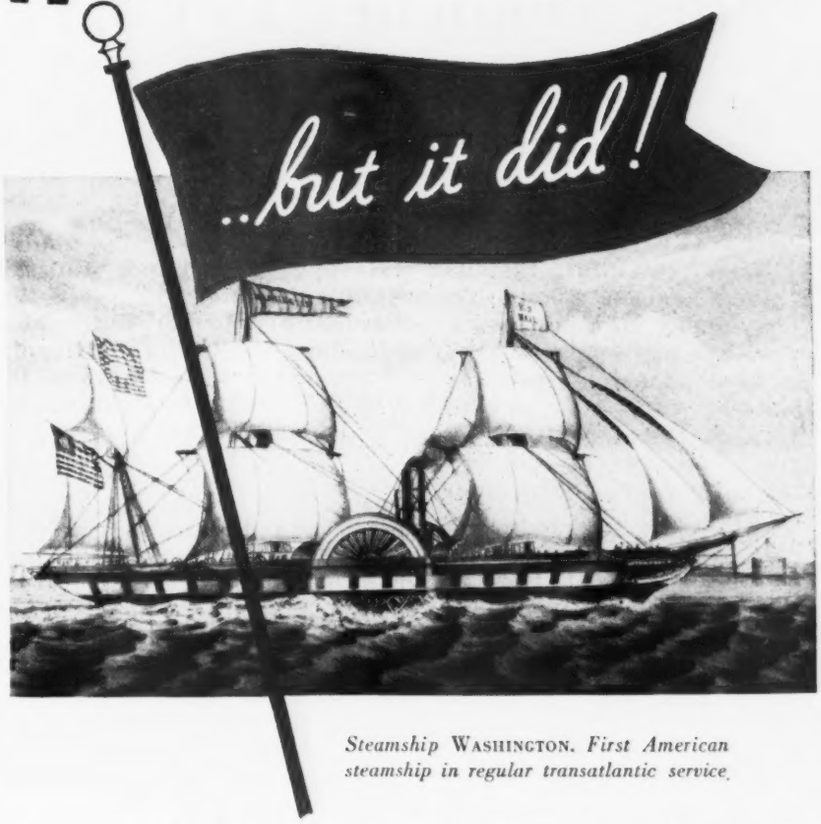
Soils high in soluble salts which are destructive to steel appear to cause the formation of corrosion products which then protect lead. Yet on the other hand, in a few soils, lead pits very badly.

In soils containing sulfides and sulfates, copper and high copper alloys lost weight rather rapidly, though fortunately nearly uniformly. Brasses high in zinc show serious dezincification within a few years in some soils. In a few soils aluminum and two of its alloys are unsatisfactory.

A curious difference in the electrolytic behavior of materials was also brought out in these tests. Serious acceleration of corrosion took place under certain conditions while under others no galvanic action was indicated.

Two classes of non-metallic pipe, one made of wood fiber and the other a mixture of cement and asbestos fiber, did not make a perfect score in several of the soils, it was stated.

IT COULDN'T HAPPEN



Steamship WASHINGTON. *First American steamship in regular transatlantic service.*

AMERICAN SHIPPING grinned smugly when the British steamers *Sirius* and *Great Western* arrived in New York from Bristol on April 23, 1838. Obviously it was a feeble attempt to reestablish British supremacy on the seas, and to regain the traffic that had been lost to American sailing packets and clipper ships. Yet, in nine short years, transatlantic steamships became such a threat to American commerce that Congress was forced to subsidize an American steamship line to compete.

Every business man is "from Missouri" when it comes to adopting a new idea. "Show me," he says. "I want proof that it's practical—I can't afford to experiment."

Refiners hesitated to adopt the modern antioxidant method of stabilizing gasoline. It was a new idea—it might fail. But this method has more than proved its superiority over the old sulfuric acid method. Raw materials cost less; yields are higher; equipment is protected against corrosion. Refiners who rely on du Pont Gasoline Antioxidants to prevent gum formation and loss of anti-knock value are realizing greater profits and selling better products. E. I. du Pont de Nemours & Co., Inc., Organic Chemicals Dept., Wilmington, Del.

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GASOLINE ANTIOXIDANTS

Fuel Tendency to Coat Heater Coils Is Given By New Direct Test

(Review of a Paper Entitled "The Stability of Residual Fuels" by A. H. Batchelder, Standard Oil Co. of California, Presented Before American Petroleum Institute Refining Division, Nov. 11, Chicago)

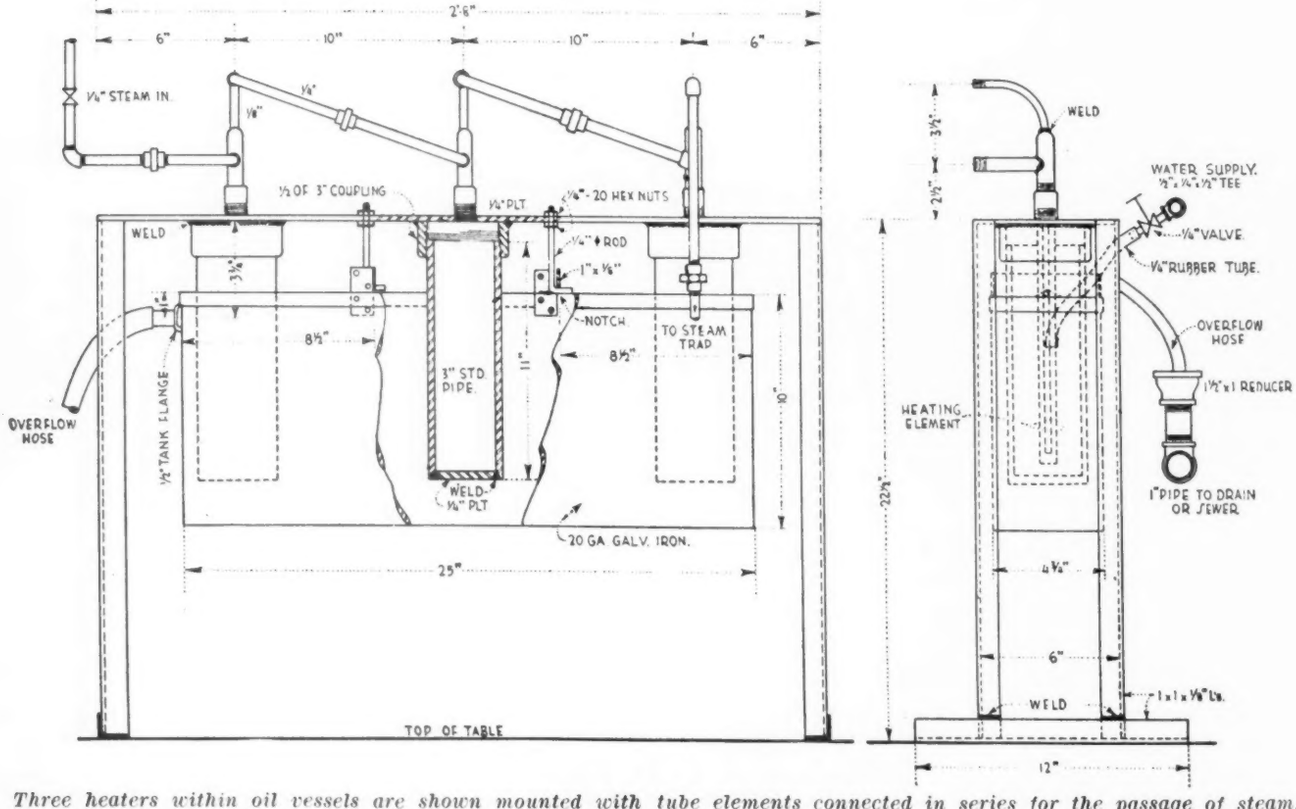
A NEW test for residual fuels, based upon their tendency to coat heater coils with a deposit which retards heat transfer, was described at the 17th annual meeting of the American Petroleum Institute in Chicago, Nov. 11, by A. H. Batchelder, of the Standard Oil Co. of California.

The method was said to be exceptionally valuable in connection with the utilization of cracked fuel oils and of blends of these with straight-run residuum and cutter stock. Conventional physical tests and inspections were said to miss this characteristic relating to the stability of residual fuels.

In addition to fuel characteristics, the deposition rate was said also to be dependent upon heater design, the temperature of the heating surface, and the rate of flow. Therefore the heater-coating index, as determined by the heater test, must be regarded as an empirical measure of the coating tendency of a fuel. However, because straight-run fuels deposit no hydrocarbon material, the heater deposit can be used as a research tool to measure the effective degradation caused by the combination of cracking and blending, it was concluded.

It was further concluded as a result of tests that cracked fuels with satisfactory stability characteristics and a minimum of heater coating can be safely blended with one another. The effect of additions of straight-run fuels from asphalt-bearing crudes depends upon the relationship between the protective action of the asphaltic constituents and any precipitating tendency the light-oil portion may have.

From the standpoint of utilization in fuel oils, the essential difference between cracked and straight-run tars in resid-

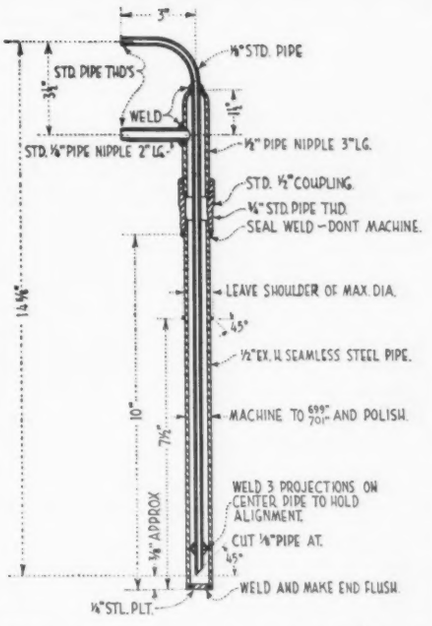


Three heaters within oil vessels are shown mounted with tube elements connected in series for the passage of steam. The three oil vessels are immersed in a larger water tank in which water is maintained at room temperature

ual oils lies not in the lower gravity of the cracked product, but in its content of asphaltenes less soluble in organic solvents than the least soluble asphaltenes occurring in crude oils, and especially in the presence of small amounts of non-solvated or suspended hydrocarbons. Because of the presence of difficultly-soluble asphaltenes, cracked tars are markedly less compatible with cutter stocks than straight-run residua, their sensitivity being such that in many cases sedimentation and heater-coating characteristics are more dependent upon the quality of the blending stocks than upon that of the cracked tar.

Other considerations such as the state of aggregation and the presence or absence of a protective agent exert a considerable influence also. The essential constituent of heater deposit is a heavy coke-like, hydro-carbon material insoluble in benzol at room temperature. While it was observed that fuels free from benzol-insoluble material cause no deposition in fuel-oil heaters, no matter what the stability at atmospheric temperature, the fact that the rate of deposition of oils containing this material is so dependent upon the solvent or protective action of the other constituents minimizes the significance of the presence of this material to mean only that a coating is possible. It was said to be particularly significant that scaling of deposits formed by fuels with both high and low heater-coating characteristics began at approximately the same time, although the deposit of the latter was not appreciable.

Observations such as these showed plainly the need of a directly related test. Test heaters were constructed and operated according to a standardized procedure. A test period of four days was used and heaters were operated at 350-400 F. rather than at higher temperatures at which the rate of deposition is greater, because results were more reproducible. Results, expressed in grams of benzol-insoluble material, are termed "heater-coating indexes".



The heaters consist of tube elements such as this one. Immersed 8½ inches in approximately one quart of oil, the coating begins to form on the outside surface when heat is applied by means of the passage of steam through the tube

The wide differences in chemical characteristics of cracking-still charging stocks and in methods of processing and blending the resulting fuels make it almost impossible to discuss adequately all the variables involved in blending, it was indicated. It was shown that cracked tar is compatible with a large proportion of low-aniline-point cutter and with a moderate amount of cracked gas oil. The tolerance for virgin gas oil is exceedingly small. For fuels of any given viscosity, the lower gravity stocks are to be preferred, it was brought out. Also, with any but cutters of unusually high solvent power, greater stability may be expected from higher-viscosity fuels.

Residual asphalts lower markedly the heater-coating tendencies of cracked fuels and even may impart a considerable tolerance for cutter stocks with which the pressure tar may normally be incompatible. The blending characteristics of straight-run fuels made from the asphalt-bearing crude are greatly improved as the viscosity is increased. Fuels made from the more paraffinic residuum are much inferior blending stocks and very little changed by topping.

The description of the apparatus for making this new test for residual fuels and the test procedure are as follows:

Description of Apparatus

THE heaters consist of tubes, 0.700 in. in diameter, heated by steam and immersed 8½ in. in approximately one quart of oil contained in a vessel, which is itself immersed in a water bath at approximately room temperature. Six heaters are mounted on a steel bench, 66 in. long, 12 in. wide, and approximately 24 in. high.

Steam pressure is kept at 135 lb. gage. To avoid excessive pressure drop through the heaters, no more than three heaters should be connected between the steam line and the trap. In order to insure effective working of the trap, allow 4 ft. to 6 ft. of bare piping between the trap and the nearest heater. High-pressure steam should be reduced to 135 lbs., using a reduction valve protected by a relief valve, with provision made for removing any super-heat.

The construction and mounting of the heaters are illustrated in Fig. 7 and 8.

Operation

Before being charged the heater surface is polished with a naphtha-base metal polish and wiped with a clean cloth. The cylindrical oil container is then filled to such a height that the heater surface is immersed 8 in. to 8½ in. and screwed into place. The water baths are then mounted, filled, and the steam turned on. The temperature of the water bath is not critical, but should be kept from 60 deg. to 80 deg. F.

The oil is changed each 24 hours, and the deposit removed after 96 hours. To minimize oxidation reactions, the steam pressure should be relieved 15 min. before removing water baths or oil containers. The water baths are removed, the oil containers taken off, and the tubes drained for approximately 30 min. During this time

the oil containers can be refilled.

It is important that inlet-steam valves be tight so that the heater tubes can be cooled as above.

The fuel is changed by pouring out of the container and refilling. After the completion of the four-day test the containers are cleaned out, using kerosine or mineral spirits, and dried before re-charging with another fuel. The container should be free from water in order to prevent foaming. Failure to remove thinner used in cleaning will affect the heater-coating index.

Removal of Deposits

Tubes should be allowed to drain 30 min. before deposits are removed.

Erratic deposition takes place at the surface of the oil. For this reason the deposit above 7½ in. from the bottom of the tube, and on the bottom, is first removed — a cloth slightly moistened with benzol or chloroform facilitates removal. The 7½-in. line is marked by a slight projection on the wall of the heater tube.

The deposit to be weighed is washed into a breaker containing 30 cc. to 40 cc. of benzol, using a small semi-circular brush with stiff bristles which is frequently dipped into the benzol. Repeat with an equal quantity of benzol. Pour all washings into a 100-cc. stoppered graduate, and make up to 100 cc. with benzol. This last addition may be used to remove thoroughly any adhering deposit from the brush. Shake well, and allow to stand two hours before filtration onto a tared asbestos Gooch crucible.

In the case of heavy deposits, the filtration can be speeded by decanting most of the benzol-oil solution onto the filter before stirring up the benzol-insoluble material. Approximately 50 cc. of fresh benzol should be used for washing the deposit and the sides of the crucible. The washings should be clean. Dry under the same conditions used in preparation of the tared Gooch, and weigh. The weight, expressed in grams, is termed the "heater-coating index."

Preparation of Crucibles

Tight filters which do not lose fiber can be prepared by sucking a water suspension of coarse prepared asbestos onto a Gooch crucible, tamping, and following with a tamped and finally an untamped layer of fine asbestos; the suction should be relieved when adding the suspension. The first, as well as the subsequent layers, should be free from holes. A.S.T.M. "standard specification bitumen" crucibles have been found to be very satisfactory for the purpose.

The degree of coarseness of the suspended asbestos is governed by the time of stirring. The coarse suspension may be made as follows:

Add 60 grams of coarse prepared asbestos to 4 liters of water in a balloon flask, heat to 120-150 deg. F., and stir vigorously for 10 min., using a paddle turned by a stirring motor. The suspension of fine asbestos can be made by adding one liter of the coarse suspension to two liters of water, and stirring for 30 min. as before.

Crucibles should be dried in an oven and stored over calcium chloride in a desiccator. Drying in the preparation of the crucibles and, after use, can be carried out rapidly in a steam oven at not over 200 deg. F. or in a heated vacuum desiccator.

Dr. Gustav Egloff, of Universal Oil Products Co., Chicago, a speaker on "Cracking and Its Economic Significance" at the refining group session Nov. 11 of the institute's annual meeting at Chicago

Determination of Benzol-insoluble Content

Weigh 8 to 10 grams of tar or fuel accurately into a 100-cc. stoppered graduate. Add 10 times as many cc. of benzol, to the nearest cc., as there are grams of sample, and shake until homogeneous. Allow to stand at least two hours, and filter onto an asbestos Gooch as described for determination of heater deposits.

This method is an adaptation of the "revised method of determining sediment in fuel oil," described by R. R. Curley (Lieut., U.S.N.) and J. G. O'Neill, Journal of the American Society of Naval Engineers, May, 1934.

Quality of Benzol

Because of its content of high-boiling fractions, the so-called 90-per cent benzol has been found to be unsatisfactory for this use. Commercial 100-per cent water-white benzol, boiling range 80-82 deg. C., has been found to be as satisfactory as C.P. benzene.

Hazards Due to Use of Benzol

It should be kept in mind that benzol vapors are toxic. Personnel should be instructed to avoid contact with the liquid or spillage upon clothing. Washing of deposits should not be carried out until the heater tubes are cool, and adequate ventilation should be assured.

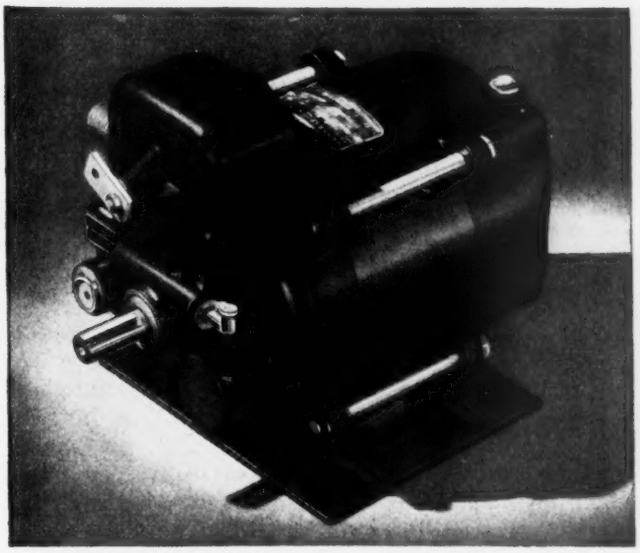
Because of the great variability in individual susceptibilities, and to the sometimes vague nature of the symptoms of benzol poisoning, it is best that precautions be taken completely to remove the possibility of injury from this source. The use of the lighter type of respirator, commonly used in paint spraying, was found to offer adequate protection during the washing of deposits. Filtration of heater deposits and benzol-insoluble contents should be carried out in a hood equipped with forced draught.

Are Your Pumps SELLING GAS or are Your Pump Motors "UNDER REPAIR"?

For Better Service — USE G-E CAPACITOR-MOTORS

MORE than one million G-E capacitor-motors are now in service on electric appliances and are setting a high standard for quiet, dependable operation. They have made an enviable service record that has induced many pump manufacturers to use them in their latest designs.

The money-saving advantages of this motor and the details of its construction are described in our Bulletin GEA-2277; we shall be glad to send you a copy. General Electric Company, Dept. 6A-201, Schenectady, N. Y.



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NO COMMUTATOR TO SERVICE . . . .

ENGINEER

This motor is adaptable to any gasoline pump.

EXECUTIVE

It will lower repair and maintenance expense.

SERVICE MAN

It requires no attention except oiling once a year.

OPERATOR

It will give instant service—30 degrees below or 110 in the shade.

070-154

GENERAL ELECTRIC

Hot Oil Pumps

PART II

Part I Published in November 4, 1936 Issue of National Petroleum News

By **M. G. VAN VOORHIS**
N. P. N. Staff Writer

Centrifugal Pump Types

In general there are two types of centrifugal pumps in common use in hot oil circulation. They are the volute pump, which has a casing with passageways shaped in the form of a spiral or volute, and the diffusion vane pump, which is equipped with removable diffusion vanes and/or rings between the impeller and the outer casing having passages designed to convert velocity head to pressure head. Between successive stages they convey the oil from stage to stage.

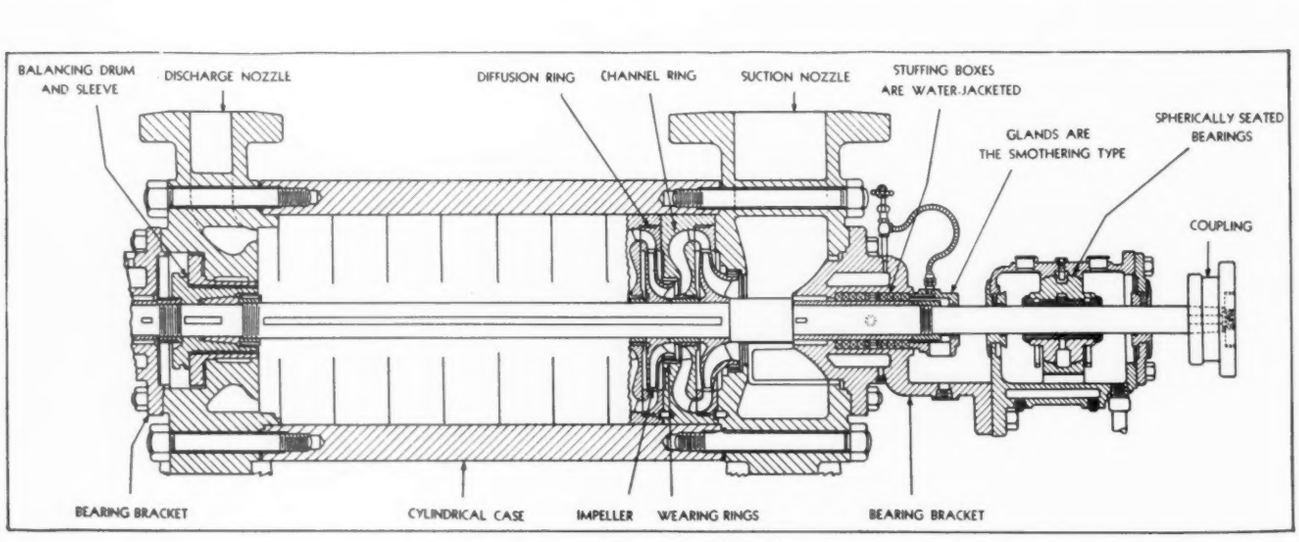
An exhausive study has been made of liquid and wall friction in centrifugal pumps which has resulted in the development of volute-shaped passages to minimize this retarding force. Some manufacturers depreciate its application to multi-stage pumps and use the diffuser rings which they say have other advantages; in particular, as relating to uniform thermal expansion.

The cross sectional diagram of one of the volute type pumps shows an outer casing with only one bolted end cover and with integral suction and discharge nozzles on the top. It shows the inner casing, the path of oil through it, and provision for 13 impellers keyed to the shaft. At each end of the pump are packings externally operated by hand wheels with spindles indicating the spring pressure exerted on the packings. The first stage impeller has openings on both sides but the rest open only on one side. The Kingsbury type thrust bearing is on the end not shown.

The diagram of a diffusor type pump brings out a contrast with the volute type pump which extends beyond the major classification. Suction and discharge nozzles are over the main supports and are in castings separate from the barrel. Diffusion and channel rings are indicated. The Kingsbury type thrust bearing on the end of the shaft not shown, is incorporated in one of the main shaft bearings. Couplings at each end of the shaft provide for drives at either or both ends. The balancing drum and sleeve which automatically maintains hydraulic balance is shown under the discharge nozzle.

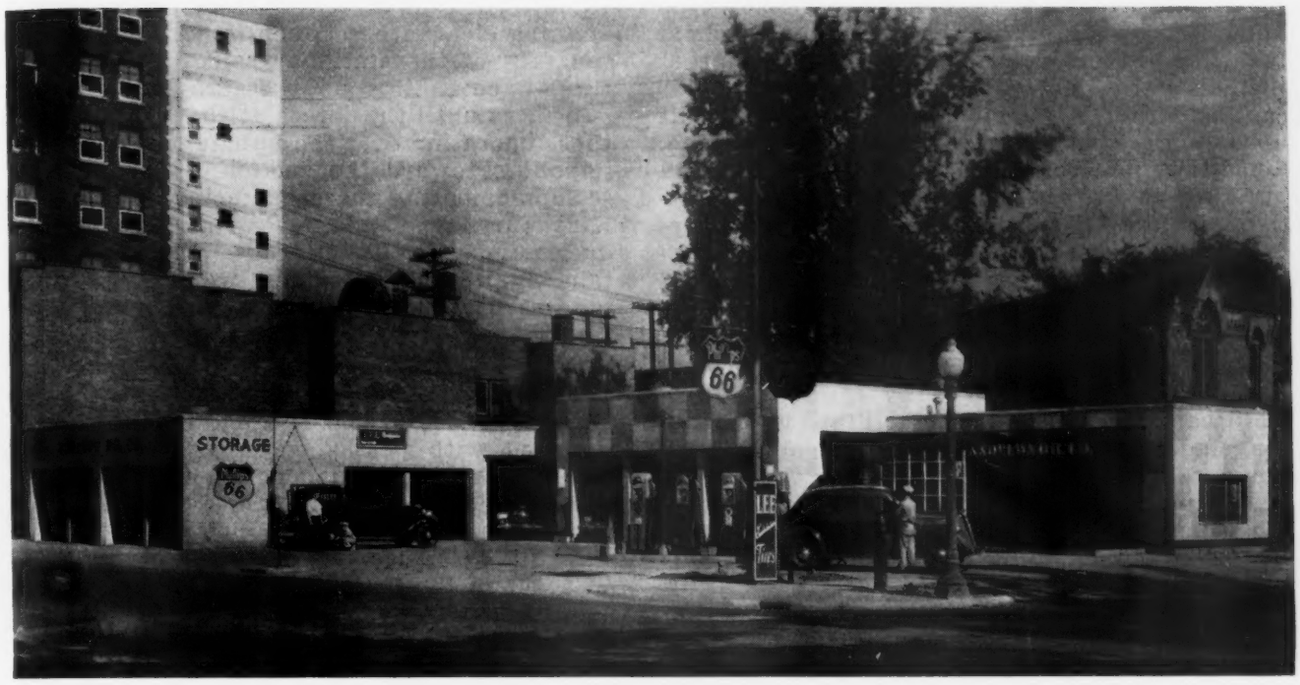
There are a number of centrifugal pump manufacturers competing in the high temperature and pressure field. Best known perhaps are Pacific Pump Works, whose sales agent is The M. W. Kellogg Co., Byron Jackson Co., Ingersoll-Rand, and Worthington Pump Co. Byron Jackson makes a volute multi-stage pump while Pacific and Ingersoll-Rand have diffuser type pumps. Worthington engineers report a preference for the volute type of multi-stage pump which is being added or is to be added to the Worthington line to increase its range of pressure, it is said. United Iron Works, Oakland, Calif., also makes the volute-type multi-stage pump.

The multiple stage volute pump features an inner case cast in two parts with longitudinal ground surfaces in the plane of the shaft cen-



All impellers face the same way in Ingersol-Rand's diffusor type pump. The balancing drum and sleeve automatically maintains hydraulic balance

N. P. N. says this is an advertisement but we say it's national petroleum news.



The letterhead of the Andrews Oil Company describes the organization as "Independent Jobbers of Petroleum Products of Quality." Naturally, therefore, you see the Phillips 66 Shield in this photograph of their Northland Hotel Service Station. "How's business?" . . . "Excellent, thank you!" . . . says modest Mr. Dale E. Andrews.

4 Year Figures Show 498% Increase in Tank Car Purchases

GREEN BAY, Wisconsin

GIVE a live outfit a live product, and then watch the sales-sparks fly.

Volume starts up almost as fast as Phillips 66 Poly Gas starts cold motors on freezing days. And the sales gather size and momentum like a snowball rolling down-hill.

Call the roll of Phillips jobbers anywhere, and look at the record! In every case you find real increases in volume. Not puny differences that it takes a trained statistician to discover, but genuinely large sales-jumps that are apparent at first glance. And as that famous slogan says, "there must be a reason."

Your Own Market Is Waiting For Phillips 66

Car owners in your territory are of course not *literally* waiting for Phillips 66 Poly Gas. But they are there just the same, ready to buy the first time they see the Phillips 66 Shield.

Why? Because the knockout quality and economy of this motor fuel are known and appreciated. Drivers have heard about it from their friends. They have listened to it on the radio, read about it in magazines and newspapers, seen the story flashed from billboards.

There may be larger advertisers than Phillips. But month in and month out, year in and year out, there is no more *steady* and *consistent* advertiser than Phillips. The facts about Phillips 66 Poly Gas are hammered home to car owners — not in scattered little spurts, not in short campaigns, but with attention-arresting advertising whose pressure is constantly maintained.

Because there is this tremendous consumer acceptance of Phillips 66 Poly Gas, live jobbers like the Andrews Oil Company regularly write us letters like this one of theirs, which we are quoting. You will note that modest Mr. Andrews doesn't begin to take anything like the credit to which he and his organization are entitled. But the letter speaks for itself:

"You have noticed," his letter says, "by the increase in the number of tank cars shipped, how our business has increased.

"This additional business is brought in by the excellent co-operation, and sales assistance from your good firm.

"We have had a lot of business connections with refiners, and wish to say that we never dealt with a better firm. Whenever any differences arise, which will happen in any business, the adjustment is made fair and square to the satisfaction of the jobber.

"If you have a prospective jobber who is doubtful about making a change, refer him to us and we will gladly tell him about our satisfactory dealings with you."

Want More Business?

Why not write for all the facts! Mr. Andrews' statement that he has "never dealt with a better firm" is typical of the feeling about Phillips that exists among all our customers. We are proud of the fact that we are known as a friendly organization.

On request, we will be glad to show you specific facts and figures, to outline the kind of cooperation you can confidently expect, to tell you what other jobbers have achieved. Wire, write, or phone

Phillips Petroleum Co.
Bartlesville, Oklahoma

Chicago, Minneapolis, Peoria, Indianapolis, Des Moines, Omaha, St. Louis, Kansas City, Wichita, Tulsa, and Amarillo

ter in place of a diffusion ring and channel ring for each stage as is used in the diffusor type hot oil charging pump. The two parts are held together by compressive stress, a resultant of the discharge pressure retained by the outer case and the lesser component pressures built up at successive stages within the inner case. Since the inner case does not have to withstand bursting pressures its construction can be relatively light to permit attainment of proper hydraulic features, minimize stresses of temperature difference, and facilitate dismantling.

Most hot oil pumps are built with horizontal shafts. Split outer casings are used only for lower pressures. Suction and discharge nozzles generally extend vertically upward to eliminate vapor binding and to facilitate piping arrangement, which is usually overhead. Where the nozzles are cast or welded to the barrel of the pump it is unnecessary to disturb piping when dismantling. Also the attachment of supporting brackets to the barrel make it unnecessary to provide auxiliary support during dismantling. Provision for dismantling in the barrel type pump is through bolted end covers. Pumps are available which have only one bolted end-cover and an assembly table may be provided to be bolted to the end of the pump in place of the end cover to facilitate repairs and replacement of parts.

The manner of counteracting axial thrust is interesting. This is provided for in the volute type pumps by having half of the suction openings of the impellers in one direction and half in the opposing direction.

In the diffusor pump all stages face in the same direction. (Fig. 3). Axial thrust is neutralized by the action of the oil under discharge pressure operating against the inside face of a drum flange, which rotates in a stationary sleeve beyond the last stage impeller, and oil under suction pressure on the outer face of the drum. Any tendency to build up thrust toward the suction end of the pump causes the rotor to move in that direction, thus diminishing the running clearance between the drum flange and the face of the stationary sleeve. This throttling effect builds up pressure between those two faces until the forces at that point equalize those operating over the unbalanced area of the impellers toward the suction.

Supplementing these balancing devices is the Kingsbury type thrust bearing in the heavy duty pumps, the function of which is to maintain longitudinal alignment of the rotor and to take care of such thrusts as may be set up by wear or abnormal operating conditions.

Contrasts are quite pronounced between the two mentioned volute type centrifugal pumps. The inner case of the 12-stage model of one is provided with passageways which convey the oil from the first stage at one end to the second stage at the opposite end and to five more stages adjacent to it, all faced opposite to the first stage. The oil is then returned to an impeller adjacent to the first stage and to four succeeding adjacent stages, all faced in the same direction as the first stage. The discharge nozzle is near the center of the pump. Impellers are all keyed to the shaft.

The impellers of the other make of volute pump are threaded and screwed on the shaft in pairs, oppositely faced, with threads cut so that impellers will tighten with rotation. Oil enters this pump through a suction nozzle cast in one of the end covers and is discharged at the other end through a nozzle integral with the barrel of the pump.

The inner case of this pump does not completely fill the outer case and its walls are of more uniform thickness than the first mentioned pump.

Stuffing box leaks in all pumps have been eliminated by using extra deep water jackets arranged with pressure break-down and bleed-off connections. Split steel smothering glands.

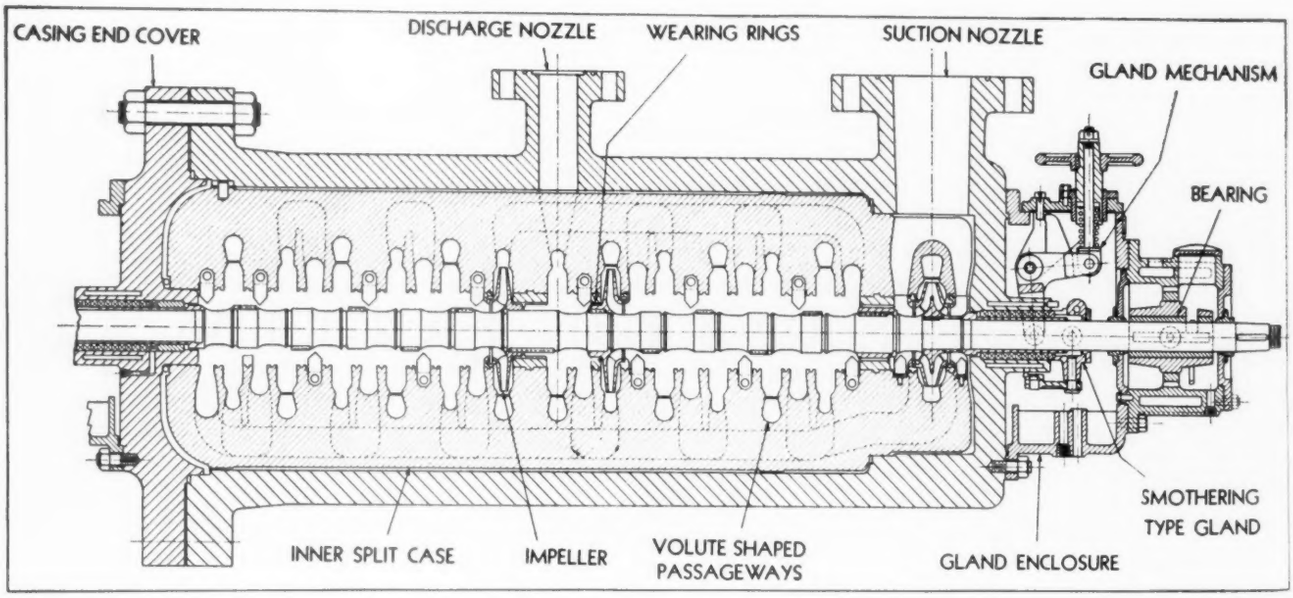


Fig. 2—It is difficult to illustrate the volute in Byron Jackson's pump. End thrust is eliminated by oppositely faced impellers

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For Selling Appeal . . . For Pulling Customers . . . For Fast Turnover and Repeats . . . you can't beat Canfield Triple Zone Premium Penn

AN ALL-TIME RECORD for winter oil sales is just ahead. How much of this increased winter business will you get?

How big will your profit margin be?

Take time now, Mr. Marketer, to look into a real winter money-maker. Think of the new sales enthusiasm, the satisfied customers, and the repeat business you could build up on a winter oil that assures complete protection under "all" (not just one) winter temperature, driving and starting conditions!

Triple Zone Premium Penn is a top-notch 100% Pure Pennsylvania Oil refined expressly for today's and tomorrow's motors . . . it more than meets car manufacturers' specifications for winter oils . . . and, last but not least, it is priced to assure you a decidedly worth while profit margin.

If you want to increase your winter oil sales and profits . . . if you want to get new "zip" and enthusiasm into your selling effort . . .

Telegraph, write, or mail coupon.

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The winter oil that is
SAFE EVERYWHERE
SAFE IN THE FRIGID ZONE
instant pumpability at zero, assures instantaneous lubrication and protection against wear during the crucial starting period . . . quick, snappy starting . . . less load on battery.
SAFE IN THE TEMPERATE ZONE
at 50, 70 and 90 miles per hour on the longest trips, its remarkable "oiliness" provides an enduring lubricating film that resists all motor friction and pressures.
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it resists sizzling heat and withstands the searing temperatures inside of modern, high-compression motors under the hottest and most crucial driving, load and road conditions.
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THE 5000 RPM MOTOR OIL
100% PURE PENNSYLVANIA OIL

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bronze bushed to prevent sparks, smother with a stream of water or steam any leakage that might get past stuffing-box packing. Pressure on any stuffing box is never more than that in one stage above suction pressure.

Two such boxes are totally enclosed along with the gland mechanism. One has provision for external operation of the mechanism for tightening the packing by means of a handwheel. The positions of the spindle and sleeve under the handwheel indicate the pressure and condition of the packing. Normally the water circulation around the gland cools oil leakage below the flash point but in case of a "flash" of oil vapor, taps are provided for steam smothering. The enclosing chamber is provided with doors hinged to both sides.

An important feature of all high temperature centrifugal pumps is the compensation provided for temperature expansion. The cradle supports are of hollow construction for the circulation of cooling water to keep an even temperature and assure a fixed height of the horizontal center of the machine. Supports are in keyways which, while maintaining longitudinal alignment, in no way interfere with its free movement longitudinally or vertically below the horizontal center and thus prevent the setting up of objectionable strains.

For highest pressures and temperatures (900 F. and 2500 pounds per square inch) one company recommends its vertical multi-stage hydropress pump, i.e., a vertical centrifugal. These pumps occupy even less space than the horizontal types. Some of them might be mistaken for old style service station gasoline pumps by their size and shape if one did not stop to take a second look.

Either motor or turbine is mounted on top for motive power. Only one circular flange is required to close the barrel containing the pump proper. The barrel normally extends below floor level and both the suction and discharge nozzles are at the top end. Access is provided by lifting the pump from the lower case after unbolting the upper part and disconnecting the piping. Like others of this company's pumps it is of the volute type.

Four standard sizes are available with capacities from 10 to 250 gallons per minute. The number of stages varies from five to 54 and the outside diameter of the barrel is only 8⅝ to 17½ inches.

Metallurgy Important in Hot Oil Pumps

As far as advancement or improvement in centrifugals is concerned in the past year or so, that of metallurgy is said to be the most important. Corrosion is one of the major problems of hot oil pumping. It is a problem that has not been solved yet by a single type of steel or alloy of steel. An alloy which is satisfactory for one condition will not meet another. The variable composition of charging stocks has much to do with corrosion difficulties. Sulfur compounds are largely responsible at the temperatures existing in the pumps under consideration.

Abrasion is a factor to contend with in handling certain hot oils containing coke or other impurities. For these reasons a wide variety of steels is offered by the steel industry for combating high temperatures, corrosion, and wear. Each has its particular advantage, application, or degree of resistance to adverse conditions.

One large steel company divides its corrosion and heat resisting steels into three classes, the best being non-hardenable austenitic chromium-nickel steels. It is from this group of steels that it makes recommendations for pump parts which come into contact with oils going through the refining process.

These steels, however, are the most expensive of the three groups. Under less severe conditions satisfactory steels have been found in the hardenable chromium steels of Group II for as little as one-third the cost of Group I steels.

But cost is a minor consideration when there is as much at stake as in circulating hot oil. Three times the cost can often add more than three times the life and so cut maintenance expense and insure continued efficiency over a longer period. Group I steels are recommended in general for temperatures up to 1000-1500 F. while Group II are for temperatures up to 900-1100 F.

The principal difference in composition of the two groups is the nickel content of the first group which varies all the way from seven to 26 per cent. Group II steels contain no nickel. Most of the Group I steels have a high chromium content also, ranging from 17 to 26 per cent. Their maximum carbon content is 0.25 per cent but some specify as low as 0.07 per cent.

A popular material in pump making for price reasons is said to be a type 403 stainless iron (American Iron and Steel Institute designation). This material is heat treated for hardness and some prefer 1-1.5 per cent nickel for grain refinement. Chromium content varies from 11 to 13 per cent and carbon is kept below 0.12 per cent.

One of the newest steels to be tried out, although not newly developed, is a molybdenum (0.40-0.60 per cent) steel, with only 4.0 to 6.0 per cent chromium but up to 0.20 per cent carbon. Results in the use of this steel by one of the major oil companies is reported as meeting all expectations.

Where hardness is required for wear resisting properties, such as in the rings of the centrifugal pump, the most recent developments have been in the use of nitrided steels and stellite surfaces. Nitriding is said to be not so good from the standpoint of corrosion. All materials used should have the same coefficient of expansion.

One way of getting around the corrosion problem is through a preliminary treatment to remove corrosive elements. In any case, however, the relation between an oil's properties and the composition of pump steel is not important to both refinery engineers and to steel technologists who are responsible for providing the most economic combination.

ADVERTISING PAGES REMOVED

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KELLY'S PLATFORM FOR HIGHER DEALER PROFITS

1 Kelly will sell through its present dealers with the addition of a limited number of desirable, carefully selected new ones in all parts of the country.

2 These retailers will be contacted by Kelly-Springfield's own present sales organization.

3 Kelly dealers have a simplified line that permits quick turnover yet meets all buyer requirements.

4 Buying price will be kept to maintain enviable competitive position.

5 Immediate service from adequate stocks maintained in conveniently located warehouses.

6 Strong selling support of sound, continuous advertising in leading national magazines.

7 Close personal cooperation of a strong manufacturing company determined to grow.

• MATCH YOUR PROGRESS with Kelly's—with the Kelly Dealers'. How does it stack up?

Do you still worry about price competition? Are you bothered by encroachment in your own front yard? Are you laying out too much money on an unwieldy line? Are you handicapped by lack of public acceptance? Are you forced to do *alone* an advertising job your supplier should be helping you do? Is your business growing, or standing still?

Kelly has the answers to these questions—a sales plan, fine products and advertising—that are working successfully. It's your opportunity to turn your work into profitable business.

Surely this is worth looking into. Determine now to make your 1937 growth match Kelly's. Don't lose any time. Write today to Mr. E. S. Burke, President, for full details of the Kelly Plan.

PLAN

THE KELLY-SPRINGFIELD TIRE COMPANY, CUMBERLAND, MARYLAND

SHOULD THE OIL COMP A
AIR CONDITIONING EQU IP

By **JOHN W. THOMPSON**
N. P. N. Staff Writer

PART II

(Part I of this article appeared in the October 21st issue of NATIONAL PETROLEUM NEWS*)*

• • •

OIL companies now selling oil burners are in an excellent position to expand their activities into the field of air conditioning as they have the basic sales, service, and installation organization necessary for this type of work. The knowledge required to properly design and install a residential air conditioning job is, however, considerably greater than that of puttng in a conversion burner job.

It involves figuring the heat loss through walls, proper size of air ducts to each room to properly care for the requirements of the room, a knowledge of heating and ventilating, how to handle air under pressure, an understanding of blowers, humidifiers, air washers and filters.

One of the first needs of an oil company entering this field is for a first class heating engineer who is familiar with air conditioning practice. When a unit is sold, arrangements must be made for fabrication and installation of the air ducts in the house. This work normally, in the case of oil companies, is sublet to a sheet metal shop which works directly from the plans prepared by the heating engineer.

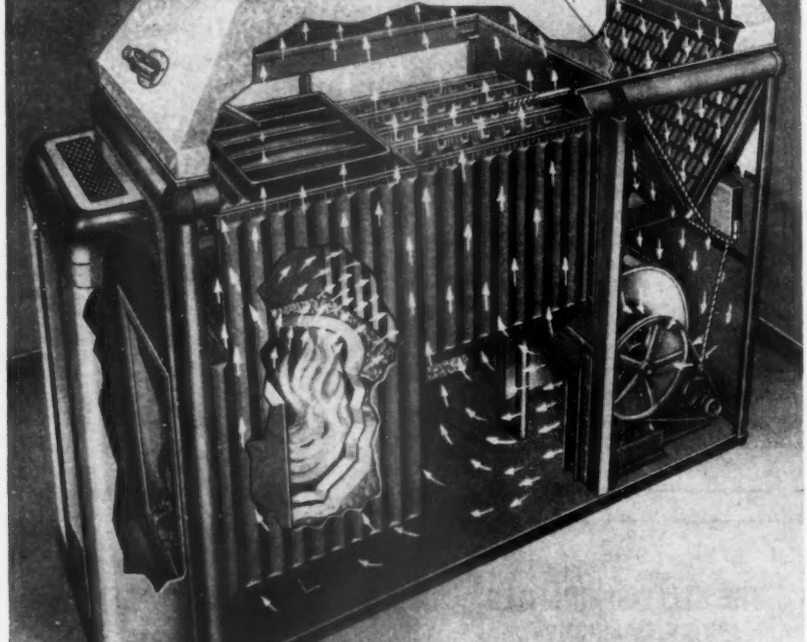
If it is found that the company's business in the air conditioning field reaches such proportions that it would pay to keep a sheet metal shop going full time, those in the trade estimate that such a shop can be set up for about $600.

In regard to the design of the proper unit and size and location of ducts, the larger manufacturers of air conditioning equipment offer the services of their engineering staffs to assist dealers who do not have the proper engineering facilities to do the job correctly.

Manufacturers will be found liberal, too, in the matter of sales promotion assistance. For example, one company supplies a complete sales kit for the dealer's salesmen, and in addition offers booklets, folders, direct mail material, follow-up letters, and display material for windows and display rooms.

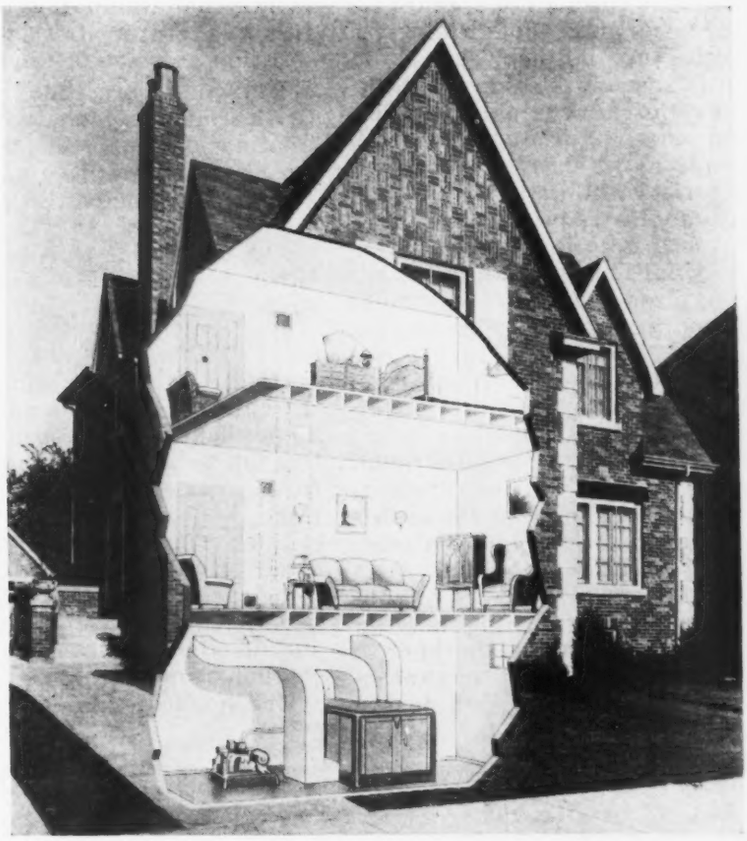
A financing plan is also available through some of the manufacturers, while others rely on the FHA to insure loans for time payments. Factory sales and service schools are conducted by a number of manufacturers for the education of their distributors' and dealers' organizations.

The terms on which air conditioning equipment is sold vary to a considerable degree. A complete unit, not including the cooling or refrigerating unit, costs in the neighborhood of about $100 to $150 per room.



The Evans-Oil-O-Matic unit, showing the path of the air from the time it enters until it leaves, completely conditioned

ANY SELL IPMENT?



This cut-away view shows the duct work that is necessary in installing an air conditioning unit in the home. Two ducts go to each room to be conditioned, one duct carrying the conditioning air to the room, and the other duct, known as the cold air return, pulls the stale air out of the room and back to the conditioning unit

A six-room house installation would cost complete about $600. Down payments range from 10 to 25 per cent and the contract period runs from 12 to 36 months, with the majority using 24 months. The carrying charge in the case of time payments usually runs between 6 and 8 per cent.

The servicing of air conditioning equipment follows the same pattern as set up by the oil burner distributors, with a year's free service and a nominal annual charge after that.

It is quite generally agreed that the home owner is the one who must eventually be sold on the type of equipment that goes into his new home. He is the man at whom the promotional effort must be directed primarily. It is true that the architect and the building contractor must also be contacted in the development of sales, but they are as a rule willing to bow to the desires of the man who is paying the bill. Successful air conditioning companies make it a practice to keep in close touch with all three factors in selling.

Some believe that architects have been slow to accept air conditioning for residences, particularly of the forced warm air type, but there are indications now that barrier is being gradually lowered. This acquiescence on the part of the architects is probably due in great measure to the rapidly increasing demand on the part of home owners for a complete air conditioning system.

There is no question but that a room or a building in which to demonstrate is essential as the initial step in promoting air conditioning equipment. In this respect the oil company is in a particularly advantageous position, for a service station provides an admirable setting for a working display of a complete conditioning unit. One local oil company in the east selling air conditioning equipment has installed a complete unit in one of its new stations. This station, the size of a six-room house and similar in design, is air conditioned in every room by a system which the oil company offers for sale to builders of homes in that territory.

The fact that prospects can be brought to this station, actually see the installation, feel the effect of its operation, and visualize how the same unit would make his own home more comfortable, has helped sales. Prospects who had practically decided upon competitive equipment have been won over to this company's product after they had seen it actually work and had learned what it would do.

Some manufacturers of air conditioning equipment feel that the place for an oil company to start in the air conditioning business is to first install units in its stations, both for the reasons stated above, and also for the educational effect these installations would have on the sales and service staffs of the oil company selling the equipment.

The newness of domestic air conditioning almost demands that the product be demonstrat-

Abstract of Part 1

● Oil companies who expect to build a future on the sale of oil burners and fuel oil should consider the sale of a complete unit which heats, circulates, humidifies, cleans and circulates the air.

Builders report that as high as 85 or 90% of the new homes being erected are equipped with air conditioning and by 1941, people should be fully educated to its advantages.

An estimate placed at $40,000,000 sales of air conditioning equipment in 1935 and a future market of 250,000 new homes is predicted within the next five years, with the present market only 10% saturated.

ed. If it can be done under actual working conditions, so much the better. Then, too, with service station installations the oil company can obtain many productive leads simply by its daily contact with motorists who drive in for their automobile requirements.

One local oil company selling air conditioning equipment has recognized the first requirement of its organization by employing a good heating engineer, one who is qualified to design and lay out heating and air conditioning installations.

This is a small company and it relies upon the manufacturer's engineering staff for assistance in planning installations. In the process of bidding on a job, the oil company man obtains a set of house plans from the architect and sends them to the air conditioning manufacturer where the proper design is laid out, including the location of the unit, its size and the location and size of the ducts.

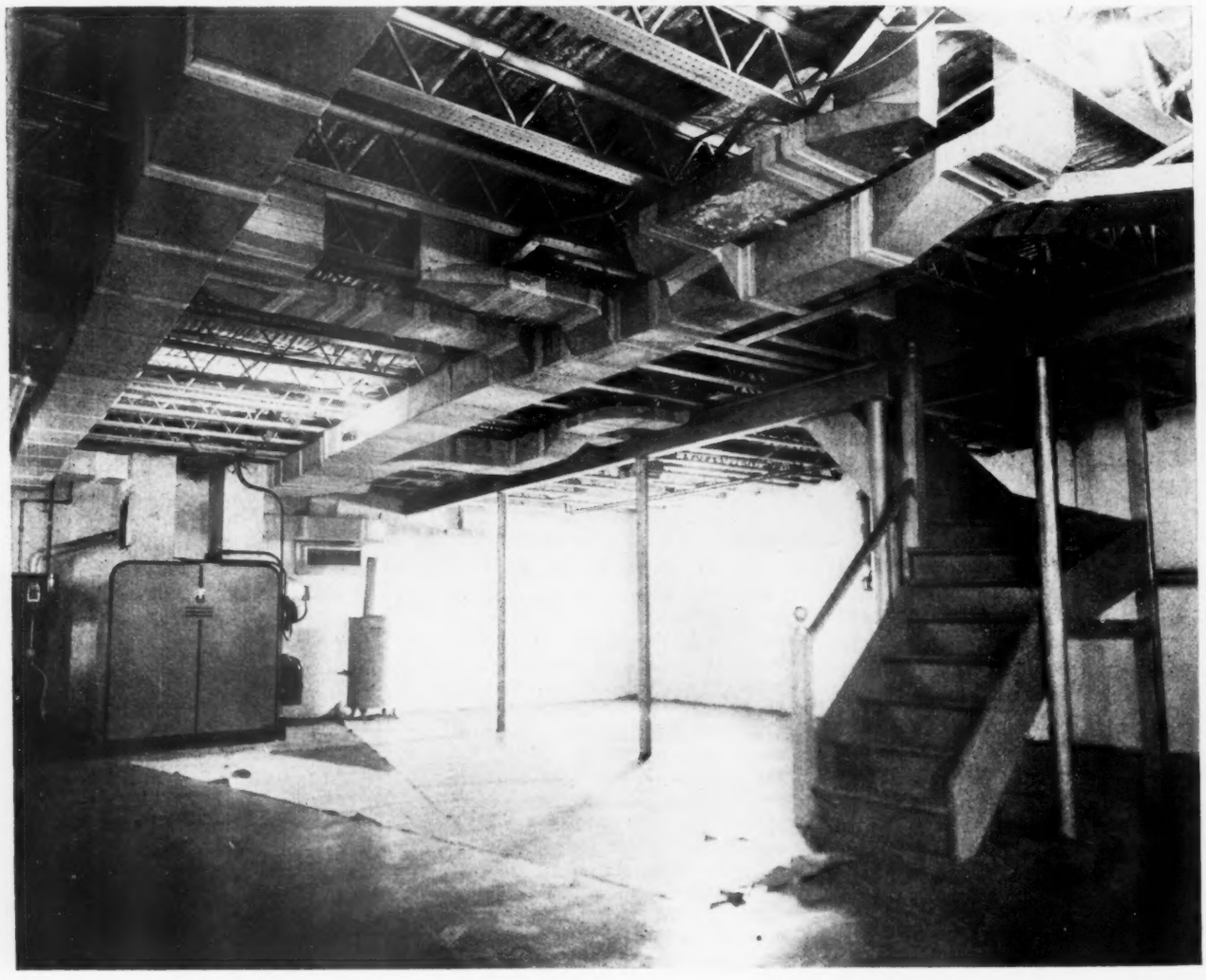
The plans are then returned to the oil company, where the heating engineer checks them over and sets a price on the installation. When the sale has been made, arrangements are made to sub-let the duct work through a local sheet metal shop.

THE cost of the duct work, which generally runs about 35 per cent of the cost of the entire job, is sometimes figured into the total cost of the installation. If this is the case the oil company figures a share of the profit on this work for itself. In some cases the duct work cost is submitted as a separate item, and in these instances the oil company does not take a profit.

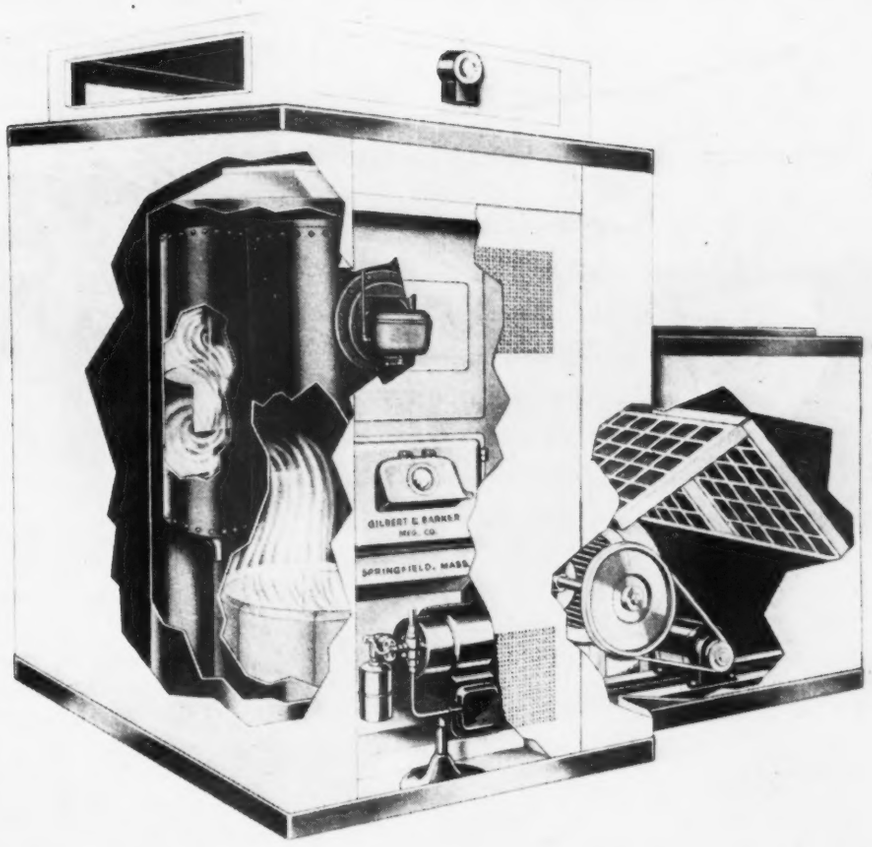
The head of this oil company is firmly of the opinion that the oil company must of necessity go into the heating business in competition with the heating contractor, rather than run the risk of having the heating contractor enter the fuel oil business.

A large fuel oil company handling a complete line of oil burners and air conditioning equipment, of which there are many throughout the east, is in the center of a territory that is sold on hot water heat. This company reports that one of its biggest selling jobs is in overcoming the opposition of contractors to the forced warm air type of air conditioning.

This company maintains a large and homey show room where different types of burners and conditioning units are on display. Most of the sales leads, according to this company, come from the floor of



The duct work, a very necessary part of the air conditioning installation, must be accurately designed for best efficiency. The size of the ducts and the locations of the outlets in the rooms are important considerations. The conditioning unit shown here is a Reynolds all-season air conditioner



Cut-away view of the Gilbert & Barker warm air conditioning unit, showing the details of its features and functions

their display room.

All of the engineering work in connection with the design and layout of conditioning installations is done by this company. The duct work is "farmed out" to the lowest bidder among three or four sheet metal shops.

The experience of this company has been that practically all of its air conditioning jobs have been in new homes, with only a small percentage going into homes already built.

The experience of another fuel oil company is interesting. This concern is interested only in the oil burner as a means of creating fuel oil business, and does not wish to become embroiled in the technicalities of air conditioning.

As a result, a deal was made with a local heating contractor who sells and installs complete air conditioning equipment, to display his product on the floor of the oil company's show room. The oil company refers any leads for the conditioning equipment to the heating contractor, and the latter in turn uses the oil company's burner in the unit when he sells and installs it.

With this arrangement the heating contractor gets the air conditioning business, which he is set up to handle; the oil company gets the burner business and consequently the fuel oil contract, and at the same time does not have to concern itself with air conditioning although it is protected in its fuel oil business on any sales of that type.

THIS plan is ideal for types of installations where the heating unit is separate from the remainder of the conditioning system, but in the combined conditioning unit where the burner is an integral part of the unit, this selling arrangement would not be practicable.

The writer also talked to a heating contractor who is enjoying a good business in air conditioning equipment and oil burners. He was frank in expressing his opinion that oil companies should not try to sell air conditioning. His reason was that they are not familiar with heating and consequently could not do a good job. They are too interested in selling the oil, he said.

This man's company is not a small one. Last year it sold 4000 oil burners. Just recently fuel oil was added to the list of products this company sells as part of its heating service.

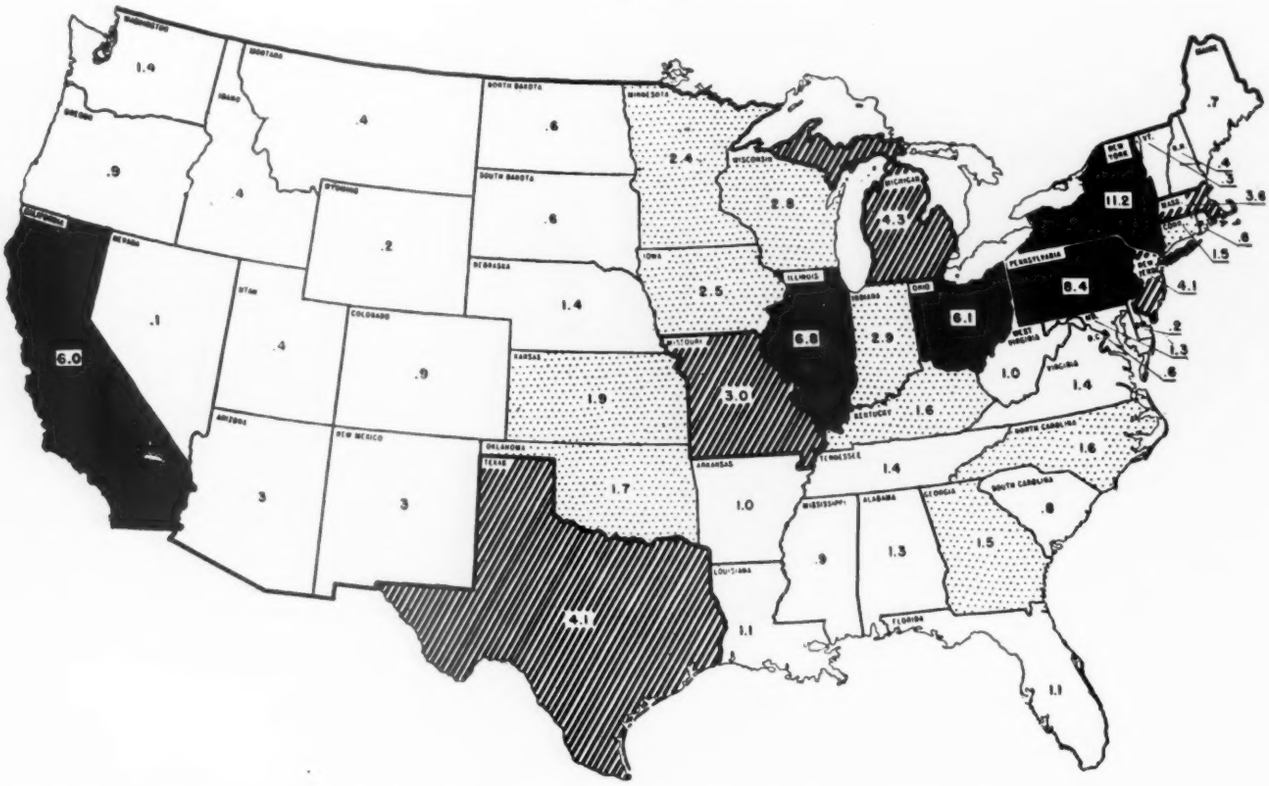
This example is mentioned, as it indicates how just one of many dealers in heating and conditioning devices can take business away from oil companies, since it is in a position to control the fuel oil contract by selling the heating unit.

The question of whether or not the oil company should enter the air conditioning market is one that each individual oil company will have to decide for itself. The point to bear in mind is that, when the conditioning unit includes oil heat, the one who sells the job is the one who has first chance at the fuel oil contract, just as it is with the sale of conversion burners.

If the oil company can assure itself a future fuel oil market without handling this increasingly popular item of air conditioning equipment, then there is no need for further thought on the matter.

The very pertinent fact still

This map, developed by the Federal Housing Administration, shows the percentage of the total that each state contributes to the housing market. The blacker the state, the greater the volume to be expected in the sale of air conditioning equipment



remains, however, that oil companies have found that it is necessary for them to sell oil burners if they are to maintain and build their fuel oil business. The air conditioning unit which uses oil for heat is in exactly the same position of command with respect to the fuel oil contract. Whatever the oil company's final decision, the situation warrants their further investigation.

Burner Shipments up 37%

WASHINGTON, Nov. 9—A total of 35,025 oil burners were shipped during September, the U. S. department of commerce reports. This compares with 20,919 in August, 1936 and 27,143 in September, 1935. The total for the first nine months of 1936 was 133,122 as against the 95,464 shipped during the January-September period of 1935.

The department also reports shipment of 66,896 distillate oil burners during September, 1936 as compared with 49,809 during the preceding month of August and 52,338 for September, 1935. For the period of January through September, the total was 221,054 in contrast to 118,170 for the corresponding period of 1935.

Socony-Vacuum Continues Company Pension Plan

NEW YORK, Nov. 9.—The pension plan for employes of the Socony-Vacuum Oil Co. will be continued throughout 1937 even though the company must observe at the same time the requirements of the Social Security Act, it was announced today in an article published in the Socony-Vacuum News.

John A. Brown, president of the company, stated that the Socony-Vacuum Oil Co. and its predecessors, the Standard Oil Co. of New York and the Vacuum Oil Co., had paid out, by themselves and through an insurance company, more than $20,000,000 in pensions and $6,500,000 in death benefits and insurance. Prior to 1931 the company financed the plan alone but since January of that year it has been insured with the Metropolitan Life Insurance Co.

The article stated that "For 34 years, therefore, the company has been putting into effect the principle of social security which the Federal Social Security Act now undertakes to administer by law. The benefits of the government program are not as liberal as those provided by the company's plan. In fairness to our employes who have responded with such enthusiasm to the company's plan, the company does not wish to abandon or modify it at this time, when the ultimate status of the Federal act is still in doubt."

Joins Universal Staff

CHICAGO, Nov. 13.—Dr. L. S. Kassel has joined the Universal Oil Products Co. staff as a research engineer.

He is a graduate of the University of Chicago, was a National Research Fellow of the California Institute of Technology 1927-1930, instructor in chemistry, University of California 1930, physical chemist Bureau of Mines, 1931-1936.

He is the author of a book, "Kinetics of Homogeneous Gas Reactions", published as a monograph of the American Chemical Society.

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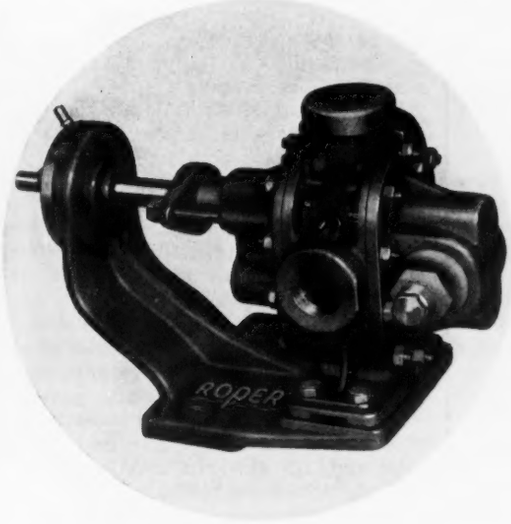

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MARKETS

CLEVELAND, Nov. 16

REFLECTING the record breaking demand for gasoline, maintained despite the usual seasonal drop in consumption, prices were steady to higher in oil markets the second week of November. Traders who had shifted much of their activity to fuel oils the previous week turned again to the gasoline market, as increased buying, combined with a sharp reduction in crude runs and gasoline stocks, tended to push prices higher.

Mild weather in much of the large consuming territory of the country stimulated jobber demand. Jobbers have been buying pretty much on a hand-to-mouth basis in anticipation of a decline in prices. So, with demand holding above generally anticipated levels, they were forced to come into the market in order to keep their stocks at normal working levels.

At the same time, some of the larger companies, in need of supplies to supplement their own production, had absorbed about all the gasoline available in East Texas. With most of this gasoline on its way to the Gulf either for reforming or export shipment, refiners in other districts found orders sufficient to take care of their current production. As demand continued to increase during the week, some refiners began asking higher prices.

A sharp drop in crude runs to stills and gasoline stocks which was reflected last week in the American Petroleum Institute's report of refinery operations for the first week of November was another factor in market improvement. Runs to stills at plants reporting to the Institute were the lowest since the week ended Aug. 8, and, with the exception of two or three weeks, lower than during the entire summer period.

The cut in crude runs combined with record consumption reduced stocks of finished and unfinished gasoline at reporting plants nearly 500,000 barrels to the lowest level since the middle of January. They compare more favorably with last year's figures than at any time since the end of February.

The Mid-Western market reflected the improved statistical position. Reports from traders in that market indicated that gasoline was moving fairly well. Offerings were well held as sellers generally were not pushing sales. While there was more interest on the part of buyers, no appreciable change was noted in prices.

Two more sales of full cargoes of 64-66, 375 e.p. gasoline for export were reported in the Gulf market. The gasoline for lifting in December brought 5.625 cents while for Jan. 15-Feb. 15 lifting 5.5 cents was paid.

N. P. N. Gasoline Index

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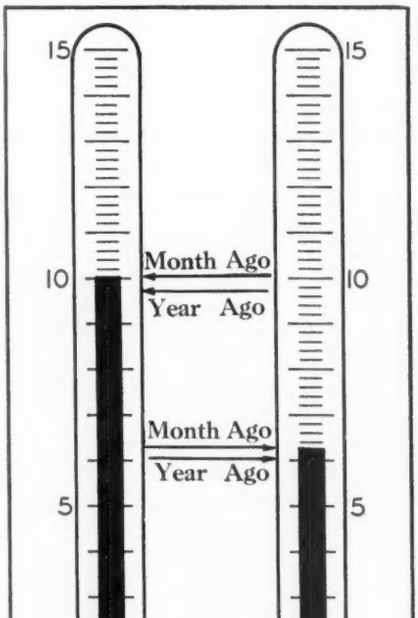


Dealer index is an average of "undivided" dealer prices, ex-tax, in 50 cities. Tank car index is a weighted average of 13 wholesale markets for regular-grade gasoline. The gasoline price index this week represents the following prices in cents per gallon:

	Dealer T. W.	Tank Car
Nov. 16	10.03	6.28
Month ago	10.04	6.26
Year ago	9.77	6.04

This brings the total to four cargoes sold for export within two weeks.

An export inquiry for a full cargo of 65 octane for December lifting was in the market. The prospective buyer was reported to have offered to pay 5.5 cents, but suppliers generally doubted if any was available at that price. Activity in other products at the Gulf was limited mostly to movement against contract commitments.

While the new commercial consumer prices were a deterring factor in markets along the eastern seaboard, tank car gasoline prices were fairly steady. New commercial consumer prices still are based on tank car prices for tank truck delivery, but the margin above the tank car price has been reduced as much as 1.5 cents in some cases.

The only change in tank car prices along the seaboard was an advance of 0.25 cent at Baltimore. Delays in arrival of boats due to the seaman's strike has reduced gasoline inventories there.

The trade was taking a keener interest in the seaman's strike in relation to what effect it might have on domestic markets. Latest reports indicate that export shipments have not been affected. Movement from the Gulf to eastern seaboard ports has been delayed, although not seriously. Cargo movement of lubricating oils to the Pacific coast has come to a virtual standstill.

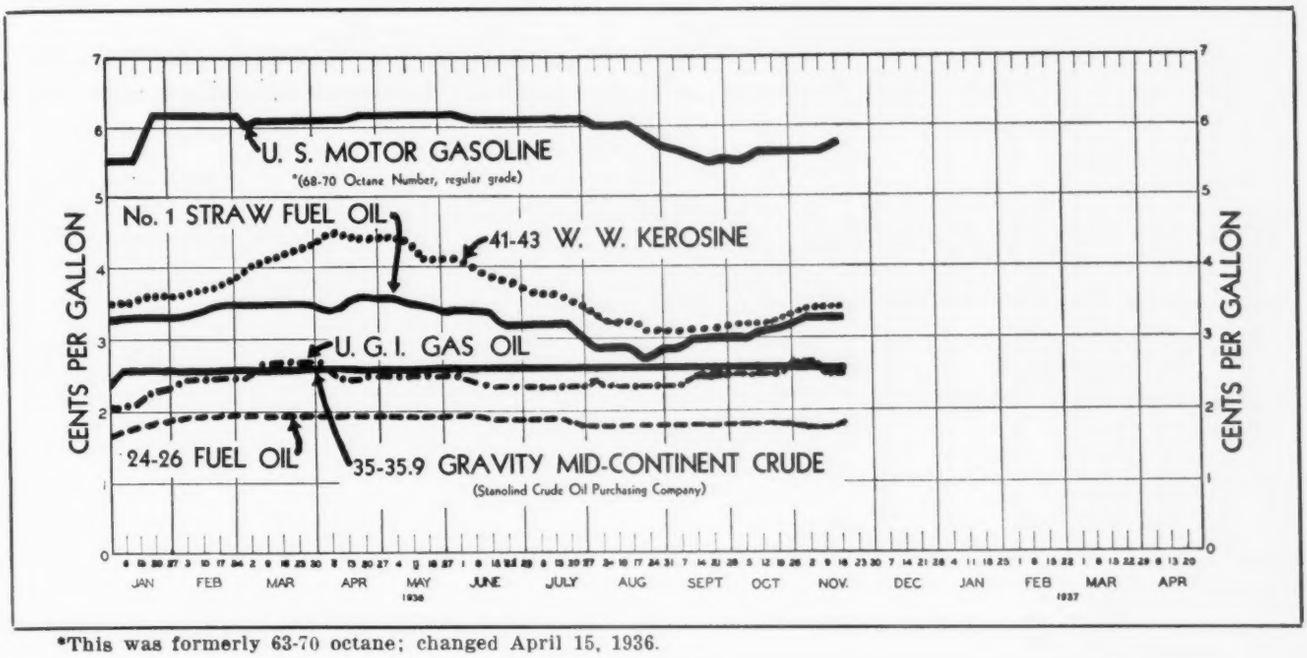
With shipping more or less delayed, tanker rates jumped last week from 6 to 11 cents when many owners withdrew their boats from the market. Two or three boats were available at 35 cents a barrel for movement from the Gulf to the north Atlantic seaboard. Unless the strike becomes more general, however, observers believed there would be no shortage of oil.

With the advances in Mid-Continent and South Texas neutral oil prices recorded well held early last week, the lower prices established some weeks ago had virtually disappeared. Indications were that refiners who had lowered their prices were now quoting the prices which prevailed before the reduction.

Pennsylvania neutral oils became almost unobtainable. Little, if any, oil was available for spot shipment. Pennsylvania bright stock also was in good demand with offerings on the decline.

Barometer of Mid-Continent Refinery Market

Charted Course of Prices of Crude and Principal Refined Products, Week by Week


U. S. MOTOR GASOLINE
*(68-70 Octane Number, regular grade)
No. 1 STRAW FUEL OIL
41-43 W. W. KEROSINE
U. G. I. GAS OIL
24-26 FUEL OIL
35-35.9 GRAVITY MID-CONTINENT CRUDE
(Stanolind Crude Oil Purchasing Company)
CENTS PER GALLON
CENTS PER GALLON
JAN FEB MAR APR MAY JUNE JULY AUG SEPT OCT NOV. DEC JAN FEB MAR APR
1936
1937

*This was formerly 63-70 octane; changed April 15, 1936.

California

Fuel Oil Lower

LOS ANGELES, Nov. 13

FUEL oil prices sagged at Pacific Coast petroleum markets the past week, as stocks increased at plants of some major companies and practically all independent refiners. Apparently, the marine strike, with its resulting loss of ships' bunker business, was largely responsible for the excess of supply over demand.

Major companies were not taking all the fuel oil offered to them under contract. Independent refiners found themselves with storage full and no market for their current output. As a consequence, distress supplies of fuel oil were reported available in small quantities at $0.50 a barrel, although the average price for this product at independent plants in the San Joaquin Valley was believed to be about $0.60 a barrel.

Gas oil was somewhat firmer than in recent weeks, the range being $1.00-$1.10 per barrel, as compared with a previous low of $0.90 a barrel. The present average price was about $1.05 a barrel.

Kerosine and kerosine-distillate continued firm, especially in the Valley, with rapidly declining stocks at independent plants. The average price for this product was 3 cents a gallon, with indications of a trend to higher levels. Some accumulations of kerosine-distillate were reported made with the intention of casting it for export. Shipment, however, was prevented by the embargo on all drums and packaged goods.

Natural gasoline supply exceeded current demand and prices were irregular, with small quantities available at 7 cents a gallon, although the general range was from 7.5 to 7.75 cents a gallon.

Bulk gasoline prices continued firm and some improvement was noted in the retail situation, particularly in the Los Angeles Basin area where price cutting has been most prevalent. Independent service station men appeared to realize that they could not break the tank wagon market and were endeavoring to bring retail prices to a profitable level, rather than force bulk prices down. Although they had succeeded in eliminating a large number of low priced signs, surveys indicated that many dealers were still sacrificing part of their margin by under the canopy cutting.

Some major company third grade and independent competitive brands of gasoline were reported bought at 12 cents a gallon, inclusive of 4 cents, tax delivered to points in the Basin area. The nominal tank wagon prices for these products, however, remained at 13 cents a gallon. A check made of deliveries from one independent plant selling both branded and unbranded gasoline, showed that the plant output ranged up to over 325,000 gallons a day. Approximately half of this was believed to be bought by the distributor at 11.5 cents a gallon at the rack, or 11.75 cents delivered.

Inquiries for gasoline to be shipped to points outside the state but normally considered tributory to Los Angeles, indicated that California refiners were not on a competitive basis for this business, and that much of it was being placed with Mid-Continent suppliers.

Pacific Coast seaboard markets were quiet, with no important changes in quotations on any product.

Eastern

Gasoline Fairly Steady

NEW YORK, Nov. 14

TANK car gasoline prices were fairly steady along the eastern seaboard the past week, despite the increased spread of lower prices to commercial consumer buyers.

The new commercial consumer prices for tank wagon delivery which are now being used throughout New York, New England, the Atlantic Refining Co. territory and the northern portions of the Standard of New Jersey territory are based on the commercial tank car price at point of delivery as formerly, but have reduced the price to the smaller commercial buyer in most instances. Jobbers and dealers who buy in tank car, barge or tank wagon lots report that the spread between their laid in cost price and the selling price to the consumer has narrowed to such an extent as to reduce their competition for this type of business.

Terminal tank car prices to jobbers were unchanged at most points during the week. Reports of price shading were heard in the New York harbor market, while on the other hand, tank car prices at Baltimore were advanced 0.25 cent, to 6.75 cents on the 65 octane

and above grade. Lowered gasoline stocks due to delays in arrival of cargo shipments and continued good demand were the chief factors causing the higher price at Baltimore, it was reported.

Demand for kerosine showed improvement, particularly at northern points, although suppliers reported no change in prices. The market, however, appeared steadier on the old price basis than was the case in the previous week. One large company that was temporarily short of kerosine was reported to have purchased 30,000 barrels at New York harbor during the week.

Chicago

Gasoline More Active

CHICAGO, Nov. 14

BULLISH factors, predominant among which was the purchasing of gasoline in East Texas by large companies, snapped the Mid-Western gasoline market out of its lethargy of the past month or more.

The market presented a more orderly picture the second week of November. Selling was not especially aggressive throughout the week and the market experienced little, if any, backing and filling on full specification grades. Mild weather over much of the middle west also had a steadying influence on prices, according to reports.

The more active interest in, and the comparatively better position of, gasoline did not result in any appreciable change in established quotations. The slight improvement did, however, serve to halt, at least temporarily, what appeared to be a growing bearish sentiment among traders here.

The betterment in the market, despite the absence of price mark-ups, was emphasized more strongly, perhaps, when compared to conditions existing previously. Gasoline was easy the first week of November, with price shading, mostly undercover, unsettling the tank car market. Open market buying was slack, and offerings went begging in some instances.

While shading of prices on full specification gasoline had about disappeared toward the end of the second week of November, there was little disposition on the part of sellers to ask higher prices, and much less disposition on the part of buyers to pay them.

Extremely low octane gasoline from Louisiana, Michigan and certain Texas districts presented a problem to marketers here. It was the only discordant feature in the market. While not generally considered a representative third grade material, and sold with no guarantee of octane rating, the fact that asking prices for this material were 0.25 to 0.5 cent under the regular third grade gasoline made it an unsettling factor. Sellers reported that this extremely low octane gasoline was offered more freely.

Retail gasoline markets were stable throughout the middle west last week.

Kerosine remained firm. Offerings of this product were tightly held, with current sales affording an outlet for what material appeared on the market. Prices were steady to higher on both the 41-43 w.w. and the 42-44 w.w. grades all week.

Coastal

More Export Buying

NEW YORK, Nov. 14

GASOLINE for export movement continued as the most active item in the Gulf Coast market, as far as open cargo buying was concerned, in the week ended Nov. 14.

Sales during the week consisted of two full cargoes of 64-66, 375 e.p. gasoline, both for export lifting. The first was made Nov. 9 and was for Jan. 15-Feb. 15 lifting at 5.5 cents a gallon, f.o.b. the Gulf. The second was reported Nov. 13, for December lifting at 5.625 cents the Gulf.

Other export activity consisted of an inquiry for a full cargo of 65 octane gasoline for European shipment during December. At last reports this cargo had not been closed. Suppliers said that the inquirer had offered to pay 5.5 cents a gallon f.o.b. the Gulf, but they doubted if any was available at that figure. Reports were that few cargoes were now available for as early as December lifting.

Movement of light and heavy fuel oils to buyers already under contract was satisfactory, suppliers reported. Open cargo sales of these oils, however, were slack. Prices were steady at unchanged figures. Bunker oil continued hard to obtain in full cargo lots for prompt lifting.

The seamen's strike so far has not affected export movement of oil from the Gulf. It has delayed, but not seriously slowed, shipments to eastern seaboard points, suppliers generally reported. However, cargo movement of lubricating oils to the Pacific coast has been hampered considerably, they said.

Wax

Scale Dull

NEW YORK, Nov. 14.—Scale waxes were dull insofar as open market demand was concerned the past week, traders generally said. Buyers were reported as not much interested in buying for forward delivery while on the other hand suppliers apparently were not anxious to sell, resulting in a slack market.

No changes were noted in prices during the week. Sales of 124-126 white scale were reported at 2.40 cents a pound and up.

Fully refined wax prices remained unchanged, traders said.

Pennsylvania

Prices Steady

CLEVELAND, Nov. 14

BECAUSE many buyers had already made arrangements for their November requirements, trading was not particularly active in the Pennsylvania market the second week of November. Despite the lack of new spot business, however, prices for most products were relatively steady.

Neutral oils remained the tightest items on the list. Bright stock was closely held. The higher octane gasolines remained firm despite the seasonal drop in demand. Kerosine and fuel oil, while not moving as well as had been expected, were in fairly good shape.

Scarcity of neutral for spot shipment was the cause of much discussion among the trade. Many refiners were not able even to keep up with their contract commitments. It seemed quite possible, in many quarters, that there would be little, if any, neutral available for the open market the balance of this year. Reports indicated that some marketers, dependent on the spot market, had urged other marketers to sell them oil taken on their contracts. Some contract customers, however, have already taken out about all the oil they can on their contracts.

Bright stock remained firm and prices were pointing higher in some quarters. Since the good position of bright stock was due almost entirely to export demand, some discussion was heard as to the effect of the seamen's strike. Latest reports indicated that there has been no delay in shipments to foreign ports although shipments to Pacific Coast ports are out of the question. If the strike continues, buyers on the Pacific Coast may have to have shipments made by rail, although rail rates are about one-third more than boat rates.

Demand for U. S. Motor gasoline was on the decline, but the higher octanes were holding up well. Production of high octane was lower. A cracking plant in Oil City was shut down for repairs.

Demand for both fuel oil and kerosine was not as active as had been anticipated. Offerings were not excessive, however, and sellers generally were not pushing sales. Industrial demand for fuel oil remained steady, keeping stocks at some plants below normal working levels. Kerosine has not improved as much as had been expected and the advance in prices predicted in some quarters failed to materialize.

Wax was getting more play and some refiners were refusing December business at current prices.

Mid-Continent

Gasoline Firmer

TULSA, Nov. 14

MID-CONTINENT gasoline prices were firmer the past week. Advances of 0.125 cent for most grades of motor fuel were made in some quarters. The improvement was the result of recent heavy purchases by large buyers and continued good demand from jobbers.

High octane gasolines especially were in good demand. Sales of 68 to 70 octane grade at 5.876 cents Group 3 were more general.

Motor fuel with an octane rating of 63 and below was well held, although this grade was not as active as high octane gasoline. Supplies generally were not available in large quantities. East Texas refiners especially were in good shape. The purchase of over 800 cars of East Texas gasoline recently has cleared that market of virtually all surplus and current supplies. Many refiners reported recent buying had taken them out of the market for at least another week.

The practice of some companies of buying straight run gasoline to be dumped in crude pipelines has furnished a market for low octane gasoline in some outlying districts. This practice has proven economical in that it increases the capacity of the pipeline, improves the crude and gives the gasoline a "free ride" to refinery sources in the Midwestern area.

Kerosine was scarcer in the Mid-Continent last week. Orders were heavy. With demand for light fuel oils, good kerosine output has been reduced. As a result of the scarcity of kerosine, several refiners advanced prices 0.125 cent.

Natural gasoline manufacturers reported a good movement of natural last week. Orders already were being placed for shipment over the last half of November. Several inquiries for December shipment have been received, manufacturers reported.

Prices for Grade 26-70 natural were pegged generally at 4.25 cents f.o.b. Breckenridge and 4.50 cents f.o.b. Group 3.

Certain grades of Mid-Continent neutral oils were advanced up to 2 cents and South Texas lube oil were advanced about 0.5 cent when virtually all the refiners that had lowered their prices on these oils some time ago resumed quoting and selling at the former level. There were only a few spot sales reported, but most indications were that the lower prices had been completely cleaned up.

Wax was actively sought in the Mid-Continent. Most suppliers were sold up for the month and were reluctant to quote present prices for future delivery.

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REFINERY TANK CAR MARKETS

Prices in cents per gallon, tank car lots, except where otherwise noted. Inter-refinery and export sales not included. Federal, state or municipal taxes not included. Prices quoted apply on products made from legally produced crude.

Gasoline *and* Naphtha

Oklahoma	Nov. 16	Nov. 9	Nov. 2
48-54, 450 e.p. naphtha	*4.625- 4.75	*4.50 - 4.75	*4.50 - 4.75
U. S. Motor gasoline, by octane numbers:			
62 octane and below..	4.75	4.625- 4.75	4.625- 4.75
63-67 octane.....	5.125- 5.375	5.00 - 5.375	5.00 - 5.375
68-70 octane (regular).	5.75	5.625- 5.75	5.625- 5.75
60-62, 400 e.p. gasoline	4.75 - 4.875	4.625- 4.75	4.625- 4.75
64-66, 375 e.p. gasoline	5.00 - 5.125	5.00 - 5.125	5.00 - 5.125
68-70, 350-360 e.p. gasoline.....	*5.00 - 5.25	*5.00 - 5.25	*5.00 - 5.25

*Nominal.

Western Penna. (Quotations and/or sales prices to car unloaders)			
Bradford-Warren:			
52-54 naphtha.....	5.375- 5.50	5.375- 5.50	5.50 - 5.625
Motor gasoline:			
U.S. Motor (58-62°)	5.50 - 5.625	5.50 - 5.625	5.625- 5.75
Minimum 60 octane	7.00 - 7.125	7.00 - 7.125	7.00 - 7.125
Minimum 65 octane	7.25 - 7.375	7.25 - 7.375	7.25 - 7.375
Minimum 70 octane	.....	.....	.....
64-66, 390 e.p. gasoline	5.75 - 5.875	5.75 - 5.875	5.875- 6.00
68-70, 350-360 e.p. gasoline.....	6.00 - 6.125	6.00 - 6.125	6.125- 6.25
Other districts:			
52-54 naphtha.....	5.375- 5.50	5.375- 5.50	5.50 - 5.625
54-56 naphtha.....	5.50 - 5.625	5.50 - 5.625	5.625- 5.75
Motor gasoline:			
U.S. Motor (58-62°)	5.50 - 5.625	5.50 - 5.625	5.625- 5.75
Minimum 60 octane	7.00 - 7.125	7.00 - 7.125	7.00 - 7.125
Minimum 65 octane	7.25 - 7.375	7.25 - 7.375	7.25 - 7.375
Minimum 70 octane	.....	.....	.....
64-66, 390 e.p. gasoline	5.75 - 5.875	5.75 - 5.875	5.875- 6.00
68-70, 350-360 e.p. gasoline.....	6.00 - 6.125	6.00 - 6.125	6.125- 6.25

California (3c tax to be added to prices if used in state)			
54-58 U.S. Motor, 437 e.p. for in-state shipment.....	8.00 - 8.50	8.00 - 8.50	8.00 - 8.50
54-58 U.S. Motor, 437 e.p. for outside state shipment.....	7.75 - 8.50	8.00 - 8.50	8.00 - 8.50
58-61, 375-400 e.p. gasoline, 65 octane and above.....	8.25 - 9.00	8.25 - 9.00	8.25 - 9.00

†*North Texas* (F.o.b. Wichita Falls district for shipment to Texas and New Mexico destinations; Group 3 prices quoted on northern shipments)

U. S. Motor gasoline, by octane numbers:			
62 octane and below..	4.75	4.625- 4.75	4.625- 4.75
63-67 octane.....	5.125- 5.25	5.00 - 5.25	5.00 - 5.25
68-70 octane (regular)	5.75	5.625- 5.75	5.625- 5.75
60-62, 400 e.p. gasoline	4.75 - 4.875	4.75	4.75
64-66, 375 e.p. gasoline	4.875- 5.00	4.875- 5.00	4.875- 5.00
68-70, 350-360 e.p. gasoline.....	5.00 - 5.125	5.00 - 5.125	5.00 - 5.125

Kansas (F.o.b. refinery, Kansas destination)

U. S. Motor gasoline, by octane numbers:			
62 octane and below..	5.00 - 5.125	4.875- 5.00	4.875- 5.00
63-67 octane.....	*	*	*
68-70 octane (regular).	6.00 - 6.125	5.875- 6.00	5.875- 6.00
60-62, 400 e.p. gasoline	5.00 - 5.125	4.875- 5.00	4.875- 5.00

*This price discontinued due to thinness of open market sales.

†*West Texas and New Mexico* (F.o.b. W. Texas and N. Mex. refineries for unrestricted shipment)

U. S. Motor gasoline, by octane numbers:			
62 octane and below..	4.75	4.625- 4.75	4.625- 4.75
63-67 octane.....	5.125- 5.25	5.00 - 5.25	5.00 - 5.25
68-70 octane (regular)	5.75	5.625- 5.75	5.625- 5.75

†*East Texas* (F.o.b. East Texas refinery for unrestricted shipment)

U. S. Motor gasoline, by octane numbers:			
62 octane and below..	*4.50 - 4.625	*4.50 - 4.625	*4.50
60-62, 400 e.p. gasoline	*4.625	*4.625	*4.50 - 4.625

*Nominal.

North Louisiana (For Louisiana and Arkansas destination)

U. S. Motor gasoline:			
62 octane and below..	5.50	5.50	5.50
63-67 octane.....	6.25	6.25	6.25
68-70 octane (regular).	6.50	6.50	6.50

†Refiners generally receive from 0.25c to 0.5c per gallon more for gasoline and kerosine for local or differential territory shipment.

	Nov. 16	Nov. 9	Nov. 2
Arkansas (For Arkansas and Louisiana destination)			
U. S. Motor Gasoline:			
62 octane and below..	5.50	5.50	5.50
63-67 octane.....	6.25	6.25	6.25
68-70 octane (regular).	6.50	6.50	6.50
Ohio (Quotations of S. O. Ohio. Delivered any point in Ohio).			
U.S. Motor gasoline..	8.375	8.375	8.375
Above 65 octane no.	8.625	8.625	8.625

Natural Gasoline

(Prices shown f.o.b. Group 3 and Breckenridge represent majority of sales made on dates shown to blenders on the freight basis shown below, although shipments may originate in other manufacturing districts, such as East Texas, Panhandle, Southwest Texas or Kansas).

F.o.b. Group 3			
Grade 26-70.....	4.50	4.50	4.50
F.o.b. Breckenridge			
Grade 26-70.....	4.25	4.25	4.25
California (F.o.b. plants in Los Angeles basin)			
75-85, 375-390 e.p. for blending.....	7.25 - 7.75	7.75 - 8.00	7.75 - 8.00

Kerosine

Western Penna. (Quotations and/or sales prices to car unloaders)			
Bradford-Warren:			
45 w.w. kerosine.....	4.75 - 4.875	4.75 - 4.875	4.75 - 4.875
46 w.w. kerosine.....	4.875- 5.00	4.875- 5.00	4.875- 5.00
47 w.w. kerosine.....	5.00 - 5.125	5.00 - 5.125	5.00 - 5.125
Other districts:			
45 w.w. kerosine.....	4.75 - 4.875	4.75 - 4.875	4.75 - 4.875
46 w.w. kerosine.....	4.875- 5.00	4.875- 5.00	4.875- 5.00
47 w.w. kerosine.....	5.00 - 5.125	5.00 - 5.125	5.00 - 5.125
Oklahoma			
41-43 w.w. kerosine...	3.375- 3.50	3.375- 3.50	3.375- 3.50
42-44 w.w. kerosine...	3.50 - 3.625	3.50 - 3.625	3.50 - 3.625
Kansas (F.o.b. refinery Kansas destination)			
41-43 w.w. kerosine...	3.625- 3.75	3.50 - 3.625	3.50 - 3.625
42-44 w.w. kerosine...	3.75 - 3.875	3.625- 3.75	3.625- 3.75

†*North Texas* (F.o.b. Wichita Falls district or shipment to Texas and New Mexico destinations; Group 3 prices quoted on northern shipments)

41-43 w.w. kerosine...	3.50 - 3.625	3.50	3.50

†*East Texas* (F.o.b. East Texas refinery for unrestricted shipment)

41-43 w.w. kerosine...	*3.375- 3.50	*3.375	*3.375

*Nominal.

North Louisiana (For Louisiana and Arkansas destination)

41-43 w.w. kerosine...	3.75 - 3.875	3.75 - 3.875	3.75 - 3.875

Arkansas (For Arkansas and Louisiana destination)

41-43 w.w. kerosine...	*4.00 - 4.25	*4.00 - 4.25	*4.00 - 4.25

*Only one refiner quoting.

California (F.o.b. California refineries)

38-40 w.w. kerosine...	4.00 - 5.00	4.00 - 5.00	4.00 - 5.00

Gas *and* Fuel Oils

Western Penna. (Quotations and/or sales prices to car unloaders.			
Bradford-Warren:			
36-40 fuel oil.....	4.50 - 4.625	4.50 - 4.625	4.50 - 4.625
Other districts: (Excluding Pittsburgh District Prices)			
36-40 fuel oil.....	4.50 - 4.625	4.50 - 4.625	4.50 - 4.625

Oklahoma (F.o.b. Oklahoma refineries)			
No. 1 white fuel oil...	3.375- 3.50	3.375	3.375
No. 1 straw fuel oil...	3.25 - 3.375	3.25 - 3.375	3.25 - 3.375
No. 2 straw fuel oil...	3.25	3.25	3.25
No. 2 dark fuel oil....	3.125- 3.25	3.125- 3.25	3.125- 3.25
U. G. I. gas oil.....	2.50 - 2.625	2.50 - 2.625	2.625

(*Continued on page* 64)

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REFINERY TANK CAR MARKETS

Prices in cents per gallon, tank car lots, except where otherwise noted. Inter-refinery and export sales not included. Federal, state or municipal taxes not included. Prices quoted apply on products made from legally produced crude.

Oklahoma (cont'd)

	Nov. 16	Nov. 9	Nov. 2
Fuel Oils: (Prices per barrel of 42 U.S. gallons)			
28-30 zero	3.00 – 3.125	3.00 – 3.125	3.00 – 3.125
28-30	$1.05 –$1.10	$1.05 –$1.10	$1.05 –$1.10
24-26	$0.775–$0.80	$0.75 –$0.775	$0.75 –$0.775
18-22	$0.75 –$0.775	$0.725–$0.775	$0.725–$0.775
14-16	$0.65 –$0.675	$0.625–$0.65	$0.625–$0.65
Kansas (F.o.b. refinery, Kansas destination)			
No. 1 p.w., fuel oil	3.75	3.625– 3.75	3.50 – 3.625
18-22 fuel oil (per bbl.)	$0.75 –$0.80	$0.75 –$0.80	$0.75 –$0.80
10-14 fuel oil (per bbl.)	$0.725–$0.75	$0.725–$0.75	$0.725–$0.75
North Texas (F.o.b. Wichita Falls district for shipment to Texas and New Mexico; Group 3 prices quoted on northern shipments).			
No. 1 straw, fuel oil	*3.25 – 3.375	3.25 – 3.375	3.25 – 3.375
No. 1 white, fuel oil	3.375– 3.50	3.375– 3.50	3.375– 3.50
U.G.I. gas oil	2.50 – 2.625	2.50 – 2.625	2.50 – 2.625
No. 2 fuel oil	*3.25	*3.25	*3.25
24-26 fuel oil (per bbl.)	$0.725–$0.75	$0.70 –$0.725	$0.675–$0.70
18-22 fuel oil (per bbl.)	$0.65 –$0.675	$0.625–$0.65	$0.60 –$0.65
*Nominal.			
West Texas (F.o.b. West Texas refineries for unrestricted shipment).			
No. 2 fuel oil	*3.25	*3.125– 3.25	*3.125– 3.25
18-22 fuel oil (per bbl.)	$0.675–$0.70	$0.675–$0.70	$0.675–$0.70
*Nominal.			
East Texas (F.o.b. East Texas refineries for unrestricted shipment).			
No. 1 white, fuel oil	*3.25 – 3.375	*3.25 – 3.375	*3.25 – 3.375
U.G.I. gas oil	2.50 – 2.625	2.50 – 2.625	2.50 – 2.625
No. 2 fuel oil	*3.125– 3.25	*3.125– 3.25	*3.125– 3.25
24-26 fuel oil (per bbl.)	$0.65 –$0.675	$0.65 –$0.675	$0.65 –$0.675
20-24 fuel oil (per bbl.)	$0.65	$0.65	$0.65
*Nominal.			
North Louisiana (For Louisiana and Arkansas destination).			
No. 2 fuel oil	3.25 – 3.375	3.125– 3.25	3.125– 3.25
U.G.I. gas oil	2.625	2.625	2.625
20-24 fuel oil (per bbl.)	$1.05 –$1.10	$1.05 –$1.10	$1.05 –$1.10
16-20 fuel oil (per bbl.)	$0.95 –$1.00	$0.95 –$1.00	$0.95 –$1.00
10-14 fuel oil (per bbl.)	$0.70 –$0.75	$0.70 –$0.75	$0.70 –$0.75
Arkansas (For Arkansas and Louisiana destination).			
No. 2 fuel oil	3.50*	3.25	3.25
28-30 gas oil, zero	*3.25	*3.00	*3.00
20-24 fuel oil (per bbl.)	$0.825–$0.875	$0.825–$0.875	$0.825–$0.875
16-20 fuel oil (per bbl.)	$0.725–$0.775	$0.725–$0.775	$0.725–$0.775
10-14 fuel oil (per bbl.)	$0.60 –$0.65	$0.60 –$0.65	$0.60 –$0.65
*Only one refiner quoting.			
California			
San Joaquin Valley, per bbl.:			
Grade C fuel oil	$0.60 –$0.75	$0.70 –$0.75	$0.70 –$0.75
Diesel fuel oil	$0.90 –$1.47	$0.95 –$1.47	$0.95 –$1.47
Stove distillate	$1.25 –$1.89	$1.25 –$1.89	$1.20 –$1.89
Los Angeles, per bbl.:			
Grade C fuel oil	$0.65 –$0.95	$0.70 –$0.95	$0.70 –$0.95
Diesel fuel	$0.95 –$1.47	$0.95 –$1.47	$0.95 –$1.47
Stove distillate	$1.20 –$1.89	$1.20 –$1.89	$1.25 –$1.89
San Francisco, per bbl.:			
Grade C fuel oil	$1.00	$1.00	$1.00
Diesel fuel	$1.68	$1.68	$1.68
Stove distillate	$2.10	$2.10	$2.10

Neutral Oils

Western Penna. (Quotations and/or sales prices to car unloaders)

Viscous Neutrals (Viscosity at 70° F.)

200 Vis. (180 at 100°) No. 3 color, 420-425 flash:			
0 pour test	24.50 –25.00	24.50 –25.00	24.50 –25.00
10 pour test	23.50 –24.00	23.50 –24.00	23.50 –24.00
15 pour test	23.00 –23.50	23.00 –23.50	23.00 –23.50
25 pour test	22.00 –22.50	22.00 –22.50	22.00 –22.50
180 Vis. (165 at 100) No. 3 color, 410-415 flash:			
25 pour test	21.00 –21.50	21.00 –21.50	21.00 –21.50
150 Vis. (143 at 100) No. 3 color, 400-405 flash:			
0 pour test	21.00 –21.50	21.00 –21.50	21.00 –21.50
10 pour test	20.00 –20.50	20.00 –20.50	20.00 –20.50
15 pour test	19.50 –20.00	19.50 –20.00	19.50 –20.00
25 pour test	18.50 –19.00	18.50 –19.00	18.50 –19.00

South Texas (F.o.b. South Texas refineries, for domestic shipment)

Vis. Color			
Pale Oils:	(*Viscosity at 100° F.; pour test 0*)		
100 No. 1½-2½	5.00	5.00	4.50 – 5.00
200 No. 2-3	7.00	7.00	6.50 – 7.00
300 No. 2-3	7.50	7.50	7.00 – 7.50
500 No. 2½-3½	8.50	8.50	8.00 – 8.50
750 No. 3-4	9.00	9.00	8.50 – 9.00
1200 No. 3-4	9.50	9.50	9.00 – 9.50
2000 No. 4	10.00	10.00	9.25 –10.00
Red Oils:			
200 No. 5-6	7.00	7.00	6.50 – 7.00
300 No. 5-6	7.50	7.50	7.00 – 7.50
500 No. 5-6	8.50	8.50	8.00 – 8.50
750 No. 5-6	9.00	9.00	8.50 – 9.00
1200 No. 5-6	9.50	9.50	9.00 – 9.50
2000 No. 5-6	10.00	10.00	9.25 –10.00

Note: South Texas red oil prices shown above cover oils with green cast; blue cast red oils are slightly lower in some cases.

Mid-Continent (Viscosity at 100° F.; F.o.b. Tulsa basis. Prices represent majority of quotations)

0 to 10 Pour Point:			
Pale Oils			
Vis. Color			
60-85—No. 2	5.25	5.25	5.25
86-110—No. 2	5.75	5.75	5.75
150—No. 3	8.50	8.50	8.50
180—No. 3	9.50	9.50	9.50
200—No. 3	10.00	10.00	8.00 –10.00
250—No. 3	11.00	11.00	9.00 –11.00
280—No. 3	12.00	12.00	11.00 –12.00
300—No. 3	12.50	12.50	12.50
Red Oils:			
180—No. 5	8.50	8.50	8.50
200—No. 5	9.00	9.00	7.00 – 9.00
250—No. 5	10.00	10.00	8.00 –10.00
280—No. 5	11.00	11.00	10.00 –11.00
300—No. 5	11.25	11.25	11.25

Note: Viscous and non-viscous oils, 15 to 25 pour point are generally quoted 0.5c under 0 to 10 pour point oils. Viscous oils (150-300 vis.), No. 4 color, are generally quoted 0 5c above No. 5 color oils.

Chicago (F.o.b. Chicago District refineries) (Vis. at 100° F.)

Pale Oils, *15 to 30 pour point:			
Vis. Color			
60-85—No. 2	6.50	6.50	6.50
86-110—No. 2	7.00	7.00	7.00
150—No. 3	7.50	7.50	7.50
180—No. 3	8.00	8.00	8.00
200—No. 3	8.50	8.50	8.50
250—No. 3	9.50	9 50	9.50
Red Oils, *15 to 30 Pour Point:			
180—No. 5	7.50	7.50	7 50
200—No. 5	7.50	7.50	7.50
250—No. 5	8.50	8.50	8.50
280—No. 5	10.50	10.50	10.50
300—No. 5	11.00	11.00	11.00

*Oils with 0-10 pour point are quoted at 0.5c higher. To obtain prices delivered in Chicago add 0.25c per gal.

California (F.o.b. California refineries: Viscosity at 100° F.)

Neutral oils not now being quoted.

Cylinder Stocks

Mid-Continent (F.o.b. Tulsa basis. Prices represent quotations and sales).

Bright Stocks:			
190-200 Vis. at 210° D	20.00	20.00	20.00
150-160 Vis. at 210° D:			
0 to 10 pour test	17.00	17.00	17.00
10 to 25 pour test	16.50	16.50	16.50
25 to 40 pour test	16.00	16.00	16.00
150-160 Vis. at 210° E	16.00	16.00	16.00
120 Vis. at 210° D:			
0 to 10 pour test	16.00	16.00	16.00
10 to 25 pour test	15.50	15.50	15.50
25 to 40 pour test	15.00	15.00	15.00
600 Stm. Rfd. Dark Green	5.00 – 5.75	5.00 – 5.75	5.50 – 6.00
600 Stm. Rfd. Olive Green	6.50 – 7.50	6.50 – 7.50	6.75 – 8.00
631 Steam Refined	*13.00	*13.00	*13.00
Black Oil	3.25 – 3.375	3.25 – 3.375	3.25 – 3.375

*Only one refiner quoting.

Chicago (F.o.b. Chicago district refineries) (Viscosity at 210°)

Unfiltered Steam Refined:			
140	9.00	9.00	9.00
160	10.00	10.00	10.00
200	11.00	11.00	11.00
Bright stocks, 160 vis. at 210 No. 8 color:			
0 to 10 pour point	18.75	18.75	18.75
15 to 25 pour point	18.25	18.25	18.25
30 to 40 pour point	17.75	17.75	17.75
E filtered Cyl. Stock	14.50	14.50	14.50

To obtain prices delivered in Chicago, add 0.25c per gal.

Western Penna. (A.S.T.M. tests; quotations and/or sales prices to car unloaders)

600 stm. rfd. filterable	12.50 –13.00	12.50 –13.00	12.50 –13.00
650 steam refined	14.00 –14.50	14.00 –14.50	14.00 –14.50

(*Continued on next page*)

REFINERY TANK CAR MARKETS

Prices in cents per gallon, tank car lots, except where otherwise noted. Inter-refinery and export sales not included. Federal, state or municipal taxes not included. Prices quoted apply on products made from legally produced crude.

Cylinder Stocks (cont'd)

Western Pennsylvania (cont'd)

	Nov. 16	Nov. 9	Nov. 2
600 flash	15.00 -15.50	15.00 -15.50	15.00 -15.50
630 flash	17.00 -17.50	17.00 -17.50	17.00 -17.50
600 Warren E.	16.00 -16.50	16.00 -16.50	16.00 -16.50
Bright stock, 145-155 vis. at 210°, 540-550 flash, No. 8 color:			
10 pour test	23.50 -24.00	23.50 -24.00	23.50 -24.00
15 pour test	22.50 -23.00	22.50 -23.00	22.50 -23.00
20 pour test	21.50 -22.00	21.50 -22.00	21.50 -22.00
25 pour test	20.50 -21.00	20.50 -21.00	20.50 -21.00

Petrolatums

Western Penna. (Per pound, in barrels, carload lots, f.o.b. Penna. refinery. In tank cars, 0.5c per pound less. Quotations are from majority of petrolatum makers).

Snow White	6.625	6.625	6.625
Lily White	5.625	5.625	5.625
Cream White	4.625	4.625	4.625
Light Amber	2.75	2.75	2.75
Amber	2.50	2.50	2.50
Red	2.00 – 2.125	2.00 – 2.125	2.00 – 2.125

Wax

	Nov. 16	Nov. 9	Nov. 2
Western Penna. (Per pound, f.o.b. New York)			
122-124 wh. crude scale, A.m.p.	2.40 – 2.45	2.40 – 2.45	2.40 – 2.45
124-126 wh. crude scale, A.m.p.	2.45 – 2.50	2.45 – 2.50	2.45 – 2.50
Oklahoma (Per pound in barrels; in a few instances, per pound in burlap bags; f.o.b. Oklahoma refineries)			
124-126 wh. crude scale, A.m.p.	2.625	2.625	2.60 – 2.625
Chicago (F.o.b. Chicago district refineries, in cents per pound, in bags, carload lots. Melting points are E.M.P. (A.S.T.M.) methods; add 3° F. to convert into A.m.p.)			
Fully refined:			
122-124	4.65 – 4.75	4.65 – 4.75	4.65 – 4.75
125-127	4.90 – 5.00	4.90 – 5.00	4.90 – 5.00
127-129	5.05 – 5.15	5.05 – 5.15	5.05 – 5.15
130-132	*5.45 – 5.55	*5.45 – 5.55	*5.45 – 5.55
132-134	*5.70 – 5.80	*5.70 – 5.80	*5.70 – 5.80
135-137	*6.45 – 6.55	*6.45 – 6.55	*6.45 – 6.55

*Same prices quoted in bags or slabs loose.

MID-WESTERN TANK CAR MARKETS

Prices in cents per gallon, except where otherwise noted, in tank car lots, representing majority of sales made by Chicago sellers, from legally produced crude to jobbers on Group 3 (Oklahoma) freight basis, although shipments may originate in other South-western or Mid-western refining districts. Prices do not include state or federal taxes.

Gasoline

U. S. Motor gasoline:	Nov. 16	Nov. 9	Nov. 2
62 octane and below	4.50 – 4.75	4.50 – 4.75	4.50 – 4.75
63-67 octane	4.75 – 5.25	4.75 – 5.25	4.75 – 5.25
68-70 octane (regular)	5.375– 5.625	5.375– 5.625	5.375– 5.625
60-62, 400 e.p.	4.625– 4.75	4.50 – 4.75	4.50 – 4.75
64-66, 375 e.p.	5.00 – 5.125	5.00 – 5.125	5.00 – 5.125
68-70, 350-360 e.p.	5.125– 5.25	5.125– 5.25	5.125– 5.25

Kerosine

41-43 w.w.	3.375– 3.50	3.375– 3.50	3.25 – 3.375
42-44 w.w.	3.50 – 3.625	3.50 – 3.625	3.375– 3.50

Fuel *and* Gas Oils

Domestic:			
No. 1 prime white	3.375– 3.50	3.375– 3.50	3.25 – 3.375
No. 1 straw	3.25 – 3.375	3.25 – 3.375	3.125– 3.25
No. 2 straw	3.125– 3.25	3.125– 3.25	3.00 – 3.125
No. 2 dark	3.00 – 3.125	3.00 – 3.125	2.875– 3.125
No. 3	3.00 – 3.125	2.875– 3.00	2.875– 3.00
No. 4 (per bbl.)	$0.95 -$1.00	$0.95 -$1.00	$0.95 -$1.00
No. 5 (per bbl.)	$0.725-$0.75	$0.725-$0.75	$0.725-$0.75
Industrial:			
No. 4 (per bbl.)	$0.85 -$0.90	$0.85 -$0.90	$0.85 -$0.90
No. 5 (per bbl.)	$0.65 -$0.675	$0.65 -$0.675	$0.65 -$0.675
No. 6 (per bbl.)	$0.575-$0.60	$0.575-$0.60	$0.575-$0.60
U.G.I. gas oil	2.50 – 2.625	2.50 – 2.625	2.50 – 2.625

Naphtha *and* Solvent

Stoddard solvent	6.875	6.875	6.875
V. M. & P. naphtha	7.375	7.375	7.375
Cleaners' naphtha	7.375	7.375	7.375
Mineral spirits	6.375	6.375	6.375
Rubber solvent	7.375	7.375	7.375
Lacquer diluent	8.375	8.375	8.375

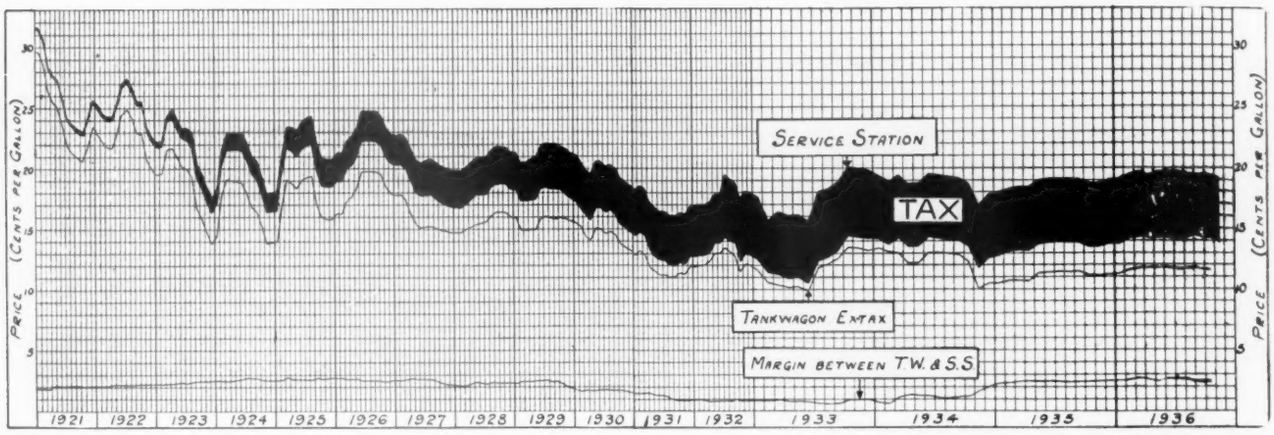
DAILY GASOLINE PRICES

Daily range of gasoline prices (cents per gallon) in tank cars, as reported in PLATT'S OILGRAM, (Week Ended Nov. 13, 1936)

	Nov. 9	Nov. 10	Nov. 11	Nov. 12	Nov. 13
U. S. Motor, 62 octane and below:					
East Texas	†4.50 – 4.625	†4.50 – 4.625	†4.50 – 4.625	†4.50 – 4.625	†4.50 – 4.625
*North Texas	4.625– 4.75	4.625– 4.75	4.625– 4.75	4.625– 4.75	4.625– 4.75
West Texas	4.625– 4.75	4.625– 4.75	4.625– 4.75	4.625– 4.75	4.625– 4.75
Oklahoma	4.625– 4.75	4.625– 4.75	4.625– 4.75	4.625– 4.75	4.625– 4.75
Mid-Western (Group 3 basis)	4.50 – 4.75	4.50 – 4.75	4.50 – 4.75	4.50 – 4.75	4.50 – 4.75
U. S. Motor, 63-67 octane:					
*North Texas	5.00 – 5.25	5.00 – 5.25	5.00 – 5.25	5.00 – 5.25	5.00 – 5.25
West Texas	5.00 – 5.25	5.00 – 5.25	5.00 – 5.25	5.00 – 5.25	5.00 – 5.25
Oklahoma	5.00 – 5.375	5.00 – 5.375	5.00 – 5.375	5.00 – 5.375	5.00 – 5.375
Mid-Western (Group 3 basis)	4.75 – 5.25	4.75 – 5.25	4.75 – 5.25	4.75 – 5.25	4.75 – 5.25
U. S. Motor, 68-70 octane (regular):					
*North Texas	5.625– 5.75	5.625– 5.75	5.625– 5.75	5.625– 5.75	5.625– 5.75
West Texas	5.625– 5.75	5.625– 5.75	5.625– 5.75	5.625– 5.75	5.625– 5.75
Oklahoma	5.625– 5.75	5.625– 5.75	5.625– 5.75	5.625– 5.75	5.625– 5.75
Mid-Western (Group 3 basis)	5.375– 5.625	5.375– 5.625	5.375– 5.625	5.375– 5.625	5.375– 5.625
Motor Gasoline, 60-64 octane					
New York harbor	6.25 – 6.50	6.25 – 6.50	6.25 – 6.50	6.25 – 6.50	6.25 – 6.50
Philadelphia district	6.50	6.50	6.50	6.50	6.50
Baltimore district	6.50	6.50	6.50	6.50	6.50
Motor Gasoline, 65 octane & above					
New York harbor	6.50 – 6.75	6.50 – 6.75	6.50 – 6.75	6.50 – 6.75	6.50 – 6.75
Philadelphia district	6.50 – 6.75	6.50 – 6.75	6.50 – 6.75	6.50 – 6.75	6.50 – 6.75
Baltimore district	6.50 – 6.75	6.50 – 6.75	6.50 – 6.75	6.75	6.75
U. S. Motor Gasoline, 58-62°					
Bradford-Warren (Western Penna.)	5.50 – 5.625	5.50 – 5.625	5.50 – 5.625	5.50 – 5.625	5.50 – 5.625
Other districts (Western Penna.)	5.50 – 5.625	5.50 – 5.625	5.50 – 5.625	5.50 – 5.625	5.50 – 5.625
Motor Gasoline, Minimum 60 octane					
Bradford-Warren (Western Penna.)	7.00 – 7.125	7.00 – 7.125	7.00 – 7.125	7.00 – 7.125	7.00 – 7.125
Other districts (Western Penna.)	7.00 – 7.125	7.00 – 7.125	7.00 – 7.125	7.00 – 7.125	7.00 – 7.125
Motor Gasoline, Minimum 65 octane					
Bradford-Warren (Western Penna.)	7.25 – 7.375	7.25 – 7.375	7.25 – 7.375	7.25 – 7.375	7.25 – 7.375
Other districts (Western Penna.)	7.25 – 7.375	7.25 – 7.375	7.25 – 7.375	7.25 – 7.375	7.25 – 7.375

*For shipment to Texas and New Mexico destinations; Group 3 prices are quoted on northern shipments.
†Nominal.

Trend of Gasoline Prices *and* Gasoline Taxes, at 50 Representative Cities



TANK WAGON, SERVICE STATION MARKETS

Tax column includes 1c federal tax, state gasoline tax, also city and county taxes as indicated in footnotes, and inspection fees, as shown in general footnote. These prices in effect Nov. 16, 1936, as posted by principal marketing companies at their headquarters offices, but subject to later corrections

S. O. New Jersey

Essolene

	Consumer Tank Car	Dealer T.W.	Taxes	Posted S.S.	Kerosine T.W.
Atlantic City, N.J.	7	8.5	4	*	9
Newark, N. J.	7	8.5	4	*	7.5
Annapolis, Md.	8.1	9.6	5	*	10
Baltimore, Md.	7.5	9	5	*	8
Cumberland, Md.	9.1	11.6	5	*	10
Washington, D. C.	7.5	9	3	15.5	9
Danville, Va.	8.7	11.2	6	20.7	12.9
Norfolk, Va.	7.5	10	6	19.5	11.3
Petersburg, Va.	7.8	10.3	6	19.8	11.7
Richmond, Va.	7.8	10.3	6	19.8	11.7
Roanoke, Va.	9	11.5	6	21	12.9
Charleston, W.Va.	8.3	10.8	5	*	12.6
Parkersburg, W.Va.	7.6	10.1	5	*	11.2
Wheeling, W.Va.	8.5	10	5	*	12.2
Charlotte, N. C.	8.9	11.4	7	*	12.6
Hickory, N. C.	9.4	11.9	7	*	13
Mt. Airy, N. C.	9.2	11.7	7	*	12.8
Raleigh, N. C.	8.5	11	7	*	12.1
Salisbury, N. C.	9	11.5	7	*	12.7
Charleston, S. C.	7.5	10	7	20.5	11.1
Columbia, S. C.	8.5	11	7	21.5	12.1
Spartanburg, S. C.	9.2	11.7	7	22.2	12.9

*S. O. New Jersey transferred stations to dealers; no prices available.

Price basis to undivided dealers: Dealer t.w. price less 0.5c per gal.

Price basis to commercial consumers: Effective Nov. 2, 1936, in New Jersey, Maryland, District of Columbia, and small portions of Virginia and West Virginia, to contract and non-contract accounts, taking following deliveries at one time, by hose connection, prices based on consumer tank car price in effect at time and place of delivery: 500 gals. or more, 0.5c over t.c. price; less than 500 gals., 0.75c over; accounts not taking deliveries by hose connection, 1c over t.c.

Effective Feb. 11, 1935, in North and South Carolina, and greater portions of Virginia and West Virginia, the following differentials apply above posted tank car price, on yearly purchases: up to 35,999 gals., 2.5c over t.c.; 36,000 to 119,999 gals., 2c; 120,000 to 239,999 gals., 1.5c; 240,000 to 479,999 gals., 1c; and over 480,000 gals., 0.5c. Non-contract accounts, 2.5c over posted t.c. price.

Kerosine Discount: 1c off t.w. price for 25 gals. or more, under contract thru territory (Baltimore City contract not necessary) except no discount in state of New Jersey.

Socony-Vacuum Oil Co., Inc.

(S. O. New York Division)

Socony Mobilgas

	"Split" Dealer T.W.	Taxes	Total "Split" Dealer T.W.	†S.S.	Kerosine T.W
Metropolitan N. Y. City: Boroughs of Manhattan, Bronx and Brooklyn (Kings and Queens)	8.7	*4	12.7	...	7.25
Borough of Richmond (Staten Is.)	9	*4	13	...	7.25
Albany, N. Y.	8.7	4	12.7	...	7.75
Binghamton, N. Y.	10	4	14	...	8.5
Buffalo, N. Y.	9.5	4	13.5	...	8.25
Jamestown, N. Y.	10	4	14	...	8.25
Plattsburg, N. Y.	9.7	4	13.7	...	8.75
Rochester, N. Y.	9.5	4	13.5	...	8.25
Syracuse, N. Y.	9.5	4	13.5	...	8.5
Danbury, Conn.	9	4	13	...	8
Hartford, Conn.	8.9	4	12.9	...	7
New Haven, Conn.	8.8	4	12.8	...	7.5
Bangor, Me.	10	5	15	...	6.5
Portland, Me.	9.5	5	14.5	...	7.75
Boston, Mass.	8.5	4	12.5	...	7.5
Concord, N. H.	10.5	5	15.5	...	8.5
Lancaster, N. H.	11.5	5	16.5	...	9.5
Manchester, N. H.	10	5	15	...	8
Providence, R. I.	8.5	3	11.5	...	7.25
Burlington, Vt.	9.7	5	14.7	...	8.75
Rutland, Vt.	10	5	15	...	8.5

*Plus 2% city sales tax computed at time of each sale.

†Socony-Vacuum transferred stations to dealers; no prices available.

Price basis to undivided dealers: 0.5c less than "split" dealer t.w.

To commercial consumers: No official schedule of commercial discounts has been announced by Socony-Vacuum.

Atlantic Refining

Atlantic White Flash Plus Gasoline

	T.W.	Taxes	Total T.W.	S.S.	Kerosine T.W.
Philadelphia, Pa.	11	5	16	16	9.5
Pittsburgh, Pa.	12.5	5	17.5	19.5	9
Allentown, Pa.	11.75	5	16.75	**	9.5
Erie, Pa.	12.5	5	17.5	18.5	8
Scranton, Pa.	11.75	5	16.75	**	10
Altoona, Pa.	12.5	5	17.5	19.5	9.5
Dover, Del.	12	5	17	**	10
Wilmington, Del.	11	5	16	**	9
Boston, Mass.	8	4	12	**	7
Springfield, Mass.	8.5	4	12.5	**	7.5
Worcester, Mass.	9	4	13	**	7.75
Fall River, Mass.	8	4	12	**	7
Hartford, Conn.	8.4	4	12.4	**	7
New Haven, Conn.	8.3	4	12.3	**	7.5
Providence, R. I.	8	3	11	**	7
Atlantic City, N. J.	10	4	14	16.5	9
Camden, N. J.	10	4	14	16.5	8
Trenton, N. J.	10	4	14	16.5	8
Annapolis, Md.	9.1	5	14.5	**	9.5
Baltimore, Md.	8.5	5	13.5	**	8
Hagerstown, Md.	9.5	5	14.5	**	10
Richmond, Va.	10.3	6	16.3	**	11.7
Wilmington, N. C.	10.1	7	17.1	**	11.3
Brunswick, Ga.	10.5	7	17.5	**	*12.5
Jacksonville, Fla.	10	8	18	**	11.5

*Georgia has kerosine tax of 1c per gal., not included in above price.

**Atlantic Refining transferred stations to dealers; no prices available.

Dealer discounts: on Atlantic White Flash Plus gasoline, thru territory, except Philadelphia; divided dealers, price equal to 3.5c off posted s.s. price; undivided dealers, price equal to 4c off posted s.s. price; authorized dealers contracts previous to Aug. 19, 1933, price equal to 3c less than posted s.s. price, plus 1c rental; at Philadelphia, delivered t.w. price to 100% dealers 8c, and to split dealers, 8.5c, effective Oct. 7.

Price basis to commercial consumer: Effective Nov. 5, 1936, on yearly gasoline purchases to contract accounts taking t.w. deliveries, based on posted tank car prices plus following amounts: 2,500 to 100,000 gals., 1c over t.c.; 100,000 gals., and over, 0.5c. Non-contract accounts taking 50 gals. or over at one time pay divided dealer t.w. price.

S. O. Ohio

Sohio X-70 Gasoline

	Consumer T.W.	Tax	Total Consumer T.W.		
Ohio Statewide	12.5	5	17.5	‡	*13.5

Counties below statewide gasoline schedule: Ashtabula, Butler, Champaign, Clarke, Clermont, Columbiana, Darke, Defiance, Fayette, Fairfield, Franklin, Greene, Hamilton, Jefferson, Knox, Licking, Lucas, Madison, Mahoning, Miami, Montgomery, Muskingum, Pickaway, Preble, Ross

Trumbull and Warren	11.5	5	16.5	....	....
Paulding	11	5	16	....	....

Renown (Third Grade Gasoline)

Ohio Statewide	12	5	17	‡	....

Counties below statewide gasoline schedule: Butler, Clermont, Darke, Hamilton, Greene, Miami, Montgomery, Preble and Warren:

	11.5	5	16.5	....	....

Ashtabula, Champaign, Clarke, Columbiana, Defiance, Fairfield, Fayette, Franklin, Jefferson, Knox, Licking, Lucas, Madison, Mahoning, Muskingum, Pickaway, Ross and Trumbull:

	11	5	16	....	....
Paulding	9	5	14	....	....

Counties above statewide schedule:

Hocking and Summit	12.5	5	17.5	....	....

Kerosine Prices

(Off Statewide Level)

Kerosine prices are off statewide level in the following counties:

Gallia *13

Allen, Ashtabula, Auglaize, Champaign, Columbiana, Darke, Fulton, Hancock, Hardin, Henry, Logan, Mahoning, Mercer, Portage, Preble, Putnam, Shelby, Summit, Trumbull, Union, Van Wert and Wyandotte *12.5

Defiance and Paulding *12

Statewide Prices to Resellers & Agents

(These gasoline prices are based on low of Group 3, 68-70 octane, gasoline tank car market as published in Platt's Oilgram, to the nearest 0.5c).

Above prices include these inspection fees on both gasoline and kerosine, per gallon, figured on basis of 50 gallons per barrel:

Alabama, 1/40c on gasoline, 1/2c on kerosine; Arkansas, 1/5c per gal. in a single barrel, 1/20c per gal. in bulk; Florida, 1/8c; Illinois, 3/100c; Indiana, 1/2c per gal. in a single barrel; 3/10c per gal. in lots of 2 to 10 bbls., 1/5c for 10 to 50 bbls., 2/25c for over 50 bbls.; Kansas, 1/50c, (3/50c can be charged to meet inspection department expenses); Louisiana, 1/32c; Minnesota, 1/25c; Missouri, 3/100c; Nebraska, 3/100c; Nevada, gasoline, 1/20c; North Carolina, 1/4c; North Dakota, 1/20c; Oklahoma, 2/25c per gal., in lots of more than 50 bbls., 1/5c in lots less than 50 bbls.; South Carolina, 1/8c; South Dakota, 1/10c; Tennessee, 2/5c; and Wisconsin, 1/25c.

Kerosine inspection fee only: Iowa, 2/25c; Michigan, 4/5c per gal. for first 2 bbls.; 3/5c for next 3; 2/5c for next 5; 3/10c for next 15, and 1/5c per gal. in lots over 25 bbls.

TANK WAGON, SERVICE STATION MARKETS

Tax column includes 1c *federal tax, state gasoline tax, also city and county taxes as indicated in footnotes, and inspection fees, as shown in general footnote. These prices in effect Nov.* 16, 1936, *as posted by principal marketing companies at their headquarters offices, but subject to later corrections*

S. O. Ohio—Cont'd

Including taxes	†Undivided Accounts	Divided Accounts	**Authorized Agents
Sohio X-70	16	16.5	16.5
Renown (3rd grade)	15.5	16	16

‡Effective Sept. 16, 1936, S. O. Ohio began leasing service stations to dealers. No statewide s.s. price available although the company does post s.s. prices locally at points where it still operates stations.

Sales tax: Ohio's 3% sales tax, effective Jan. 27, 1935, is added "where assessable, to regular posted prices," S. O. Ohio says.

*Kerosine prices include 1c state tax.

†Excluding authorized agents.

**Excluding 0.5c rental.

Discounts to commercial contract tank wagon consumers only: on all motor gasolines, thru Ohio, effective Sept. 16, 1936, except counties mentioned hereafter, off posted t.w. price, on deliveries per month: 1,000 to 9,999 gals., 1.5c per gal.; 10,000 gals. and over, 2.5c. Under 1,000 gals., posted t.w. price. Single deliveries of less than 25 gals., on X-70 and Ethyl, 2c above consumers, t.w. price; Renown, 1c above. Q. D. A. is off statewide schedule in the following counties: Allen, Ashtabula, Auglaize, Columbiana, Darke, Defiance, Franklin, Fulton, Hamilton, Hancock, Hardin, Henry, Jefferson, Knox, Logan, Lucas, Mahoning, Medina, Mercer, Pickaway, Putnam, Ross, Shelby, Trumbull, Union, Van Wert, Washington and Williams: for this information, write National Petroleum News.

Discounts on kerosine: to dealers and commercial consumers, 3c per gal. off t.w. price, any quantity.

S. O. Kentucky

Crown Gasoline

	T.W.	Taxes	Total T.W.	S.S.	Kerosine T.W.
Lexington, Ky.	12	6	18	20	11
Louisville, Ky.	12	6	18	20	10
Paducah, Ky.	10.5	6	16.5	**	8
Covington, Ky.	11.5	6	17.5	19.5	10.5
Jackson, Miss.	13	7	20	22	*12.5
Vicksburg, Miss.	12.5	7	19.5	**	*12.5
Birmingham, Ala.	13	*8	21	23	12
Mobile, Ala.	11	*9	20	21	11
Montgomery, Ala.	11.5	*9	20.5	21	*14
Macon, Ga.	13	7	20	22	*14
Atlanta, Ga.	13.5	7	20.5	22.5	*13
Augusta, Ga.	12.5	7	19.5	21	*12.5
Savannah, Ga.	11.5	7	18.5	20.5	*12.5
Jacksonville, Fla.	10	8	18	20	11.5
Miami, Fla.	11.5	8	19.5	21.5	12.5
Tampa, Fla.	10.5	8	19.5	20.5	11.5
Pensacola, Fla.	12.5	*9	21.5	23.5	10.5
(Kyso Third Grade)					
Lexington, Ky.	9.5	6	15.5	16	....
Louisville, Ky.	10.5	6	16.5	18	....
Paducah, Ky.	7.5	6	13.5	**	....
Covington, Ky.	10	6	16	17.5	....
Jackson, Miss.	11.5	7	18.5	20	....
Vicksburg, Miss.	9.5	7	16.5	**	....
Birmingham, Ala.	11	*8	19	20	....
Mobile, Ala.	8.5	*9	17.5	18	....
Montgomery, Ala.	8.5	*9	17.5	18	....
Atlanta, Ga.	10.5	7	17.5	18	....
Augusta, Ga.	9	7	16	16.5	....
Macon, Ga.	10	7	17	17.5	....
Pensacola, Fla.	10.75	*9	19.75	21	....

Dealer Discount: off posted s.s. price, on Crown and Crown Ethyl gasolines to "undivided" dealers 4c; on Kyso, 3c. To "divided" dealers: Crown and Ethyl, 3.5c, and Kyso, 2.5c, all effective on or about Jan. 1, 1934.

Discounts to tank wagon consumers: all single deliveries of 50 gals. or less, get posted s.s. price: all single deliveries of 50 gals. or more, to be billed at posted t.w. price, less following discounts, off posted t.w. price: Ethyl and Crown gasoline, 50 to 2,999 gals. monthly, 1.5c; Kyso, 1c; 3,000 to 24,999 gals., Ethyl and Crown, 2c; Kyso, 1.5c; 25,000 gals. or more, Ethyl and Crown, 3c; and Kyso, 2.5c.

**Taxes*: in the tax column is included these city and county gasoline taxes at the following points: Mobile, 2c city; Birmingham, 1c city; Montgomery, 1c city and 1c county; Pensacola, 1c city. Georgia and Mississippi kerosine prices include 1c state tax. Montgomery kerosine price includes 1c city tax.

**S. O. Kentucky transferred stations to dealers; no prices available.

S. O. Indiana

	Tax	Red Crown T.W.	Dealer Prices Red Crown	Stanolind	Kerosine T.W.
Chicago, Ill.	4	15.4	13.4	13.4	9.2
Decatur, Ill.	4	15.4	13.9	13.9	9.2
Joliet, Ill.	4	14.5	13.9	13	9.2
Peoria, Ill.	4	15.4	13.9	13.9	9.2
Quincy, Ill.	4	15.2	13.7	13.7	9 0
Indianapolis, Ind.	5	17.1	15.6	15.6	‡13
Evansville, Ind.	5	17.3	15.4	15.1	‡13.7
South Bend, Ind.	5	17.3	15.8	16	‡13
Detroit, Mich.	4	15.0	13.5	13.0	8.8
Grand Rapids, Mich.	4	15.4	13 9	13.9	9.3
Saginaw, Mich.	4	15 6	14.1	14.1	10.1
Green Bay, Wis.	5	17.1	15.6	15.6	9.9
Milwaukee, Wis.	5	16.7	15.2	13.4	9.5
La Crosse, Wis.	5	16.8	15.3	15.3	9.6
Minneapolis-St. Paul	4	15.8	14.3	14.3	9.6
Duluth, Minn.	4	16 2	14.7	14.7	10
Mankato, Minn.	4	15 8	14.3	14.3	9.6
Des Moines, Ia.	4	15.2	13.7	13.3	9.0
Sioux City, Ia.	4	15.4	13.9	13.9	9.2
Davenport, Ia.	4	15.4	13.9	13.9	9.2
Mason City, Ia.	4	15.6	14.1	12.4	9.4
St. Louis, Mo.	†4	15.1	13.6	13.6	8.9
Kansas City, Mo.	†4	14.8	13.3	13.3	8
St. Joseph, Mo.	†4	14.8	13.3	13.3	8.6
Fargo, N. D.	4	16.8	15.3	15.3	10.6
Minot, N. D.	4	18.0	16.5	16.5	11.8
Huron, S. D.	*5	17.3	15.8	15.8	10.1
Wichita, Kans.	4	14.3	11.5	10.5	8.0

†St. Louis, Kansas City and St. Joseph prices include 1c city tax. ‡Includes 4c state tax.

*South Dakota gasoline and kerosine prices include 0.1c for sales tax

Note: Effective July 1, 1935 in Iowa, and Sept. 11, 1936, in Indiana, Kansas, Michigan, Minnesota, Missouri, South Dakota and Wisconsin, and effective Oct. 1, 1936 in Illinois and North Dakota, S. O. Indiana discontinued posting service station prices, posting only a t.w. and a dealer price.

Discount to commercial consumers: Effective Jan. 1, 1935, thru territory, except Michigan effective Feb. 1, on purchases per month, discount off t.w. prices; all gasolines, 25 to 1,000 gals., at t.w. price; 1,000 gals., or more, 1.5c off t.w. on Ethyl and Red Crown, and 0.5c on Stanolind. Minimum delivery is 25 gals.

Subnormal Stanolind Points

Normally Stanolind tank wagon prices are 1c under normal Red Crown t.w. prices. Among subnormal points on Stanolind t.w are these: Detroit, 13.5c; Des Moines, 14.1c; Mason City, 13.9c; Huron, 16c; and Wichita, 11.5c, all including state and federal taxes.

S. O. Nebraska

Standard Red Crown Gasoline

	T.W.	Taxes	Total T.W.	S.S.	Kerosine T.W.
Omaha, Neb.	11.8	6	17.8	19.8	9.5
McCook, Neb.	12.5	6	18.5	20.5	10.2
Norfolk, Neb.	12.2	6	18.2	20.2	9.9
North Platte, Neb.	12.6	6	18.6	20.6	10.3
Scottsbluff, Neb.	13.3	6	19.3	21.3	11
Reliance Gasoline (Third Grade)					
Omaha, Neb.	10	6	16	16	....
McCook, Neb.	11.5	6	17.5	18.9	....
Norfolk, Neb.	11.2	6	17.2	19.2	....
North Platte, Neb.	11.6	6	17.6	19.6	....
Scottabluff, Neb.	12 3	6	18.3	20.3	....

Discount to dealers: where service station gasoline prices are normal, resellers' allowance off service station prices are (*Maximum* over-all, including rent) as follows: Reliance 2½c; Standard Red Crown, and Solite with Ethyl, 3½c. Where service station gasoline prices are below normal, resellers' allowances are reduced one-half of the amount below normal, down to the following (*Minimum* over-all including rent): Reliance, 2c, Standard Red Crown and Solite with Ethyl, 3c.

Discounts to consumers: for tank wagon deliveries covered only by Standard Commercial Consumer Contract, effective January 1, 1935.

S. O. Louisiana

Essolene

	Consumer Tank Car	Dealer T.W.	Taxes	Posted S.S.	Kerosine T.W.
Little Rock, Ark.	7.5	10	7.5	**	11.5
Alexandria, La.	7.5	10	8	**	* 9.5
Baton Rouge, La.	7	9.5	8	21	*11.5
New Orleans, La.	7	9.5	*10	23	*11
Lake Charles, La.	8	10.5	8	**	*10
Shreveport, La.	6.5	9	8	**	*10

S. O. Louisiana—Cont'd

Essolene

	Consumer Tank Car	Dealer T.W.	Taxes	Posted S.S.	Kerosine T.W.
Lafayette, La.	8	10.5	8	**	*12.5
Bristol, Tenn.	10	11.25	8	**	14.5
Chattanooga, Tenn.	9.5	12	8	**	11.5
Knoxville, Tenn.	10	12.5	8	**	14
Memphis, Tenn.	8	10.5	8	22	9.5
Nashville, Tenn.	9	11.5	8	**	10

*New Orleans gasoline tax includes 7c state, 1c federal, and 2c parish tax. Louisiana kerosine prices include 1c state tax; in addition New Orleans has 1c parish tax.

**S. O. Louisiana transferred stations to dealers; no prices available.

Price basis to dealers: Undivided dealers get dealer price, less 0.5c.

Price basis to commercial consumers: Effective Nov. 2, 1936, to contract and non-contract accounts, taking following deliveries at one time, by hose connection, prices based on consumer tank car price in effect at time and place of delivery; 500 gals. or more, 0.5c over t.c. price; less than 500 gals., 0.75c over; accounts not taking deliveries by hose connection, 1c over t.c

Humble Oil & Refining Co.

Humble Motor Fuel

	*100% Dlr. T.W.	Taxes	Total *100% Dlr. T.W.	S.S.	Kerosine T.W.
Dallas, Tex.	8.5	5	13.5	17	8.5
Ft. Worth, Tex.	8.5	5	13.5	17	8.5
Houston, Tex.	9	5	14	18	8.5
San Antonio, Tex.	9	5	14	18	8.5
U. S. Motor Fuel (Third Grade)					
Dallas, Tex.	7	5	12	14	
Ft. Worth, Tex.	7	5	12	14	
Houston, Tex.	8	5	13	16	
San Antonio, Tex.	8	5	13	16	

*Price is t.w. price to contract dealers and commercial consumers. Price to open dealers is 0.5c above t.w. prices shown above.

Price basis to dealers: to contract dealers consumer accounts off posted retail price: when posted retail price, including all taxes on Esso motor fuel is: 19.1c per gal. and above discount is 4c; 19c to 18.1c, 3.5c, and 18c and below, 3c. Humble motor fuel, 17.1c and above, 4c; 17 to 16.1c, 3.5c; and 16c and below, 3c; U.S. motor fuel, 15.1c and above, 3c; 15 to 14.1c, 2.5c; and 14c and below, 2c. To "open" dealer accounts, discounts in each case are 0.5c less on the same price basis.

Continental Oil

Conoco Bronze Gasoline

	T.W.	Taxes	Total T.W.	S.S.	Kerosine T.W.
Denver, Colo.	14	5	19	21	11
Grand Junction, Col.	15	5	21.5	23.5	15
Pueblo, Colo.	14	5	19	21	10
Casper, Wyo.	14.5	5	19.5	21.5	11.5
Cheyenne, Wyo.	14.5	5	19.5	21.5	13
Billings, Mont.	16.5	6	22.5	24.5	14.5
Butte, Mont.	15	6	21	23	14.5
Great Falls, Mont.	16.5	6	22.5	24.5	14.5
Helena, Mont.	16.5	6	22.5	24.5	14.5
Salt Lake City, Utah	16	5	21	23	16
Boise, Ida.	16.5	6	22.5	24.5	18
Twin Falls, Ida.	17	6	23	25	18
Albuquerque, N.M.	12.5	†6.5	19	21	13
Roswell, N. M.	13.5	†6.5	20	22	10
Santa Fe, N. M.	14.5	*7	21.5	23.5	12
Ft. Smith, Ark.	9.5	5	14.5	**	8
Little Rock, Ark.	9.5	7.5	17	**	9.5
Texarkana, Ark.	9.5	5	14.5	18.5	8.5
Demand (Third Grade)					
Denver, Colo.	12	5	17	19	....
Cheyenne, Wyo.	12.5	5	17.5	19.5	....
Helena, Mont.	14.5	6	20.5	22.5	....
Salt Lake City, Utah	12	5	17	19	....
Boise, Ida.	14.5	6	20.5	22.5	....
Albuquerque, N. M.	10.5	†6.5	17	19	....
Roswell, N. M.	9	†6.5	15.5	17.5	....
Santa Fe, N. M.	10	*7	17	19	....
Ft. Smith, Ark.	8.75	5	13.75	**	....
Little Rock, Ark.	8.75	7.5	16.25	**	....
Texarkana, Ark.	7	5	12	14	....

†Includes city tax of 0.5c.

*Includes 1c city tax.

**Continental Oil transferred stations to dealers: no prices available.

Discounts: effective March 1, 1934, on gasolines thru territory, off normals.s. price, except Montana,

TANK WAGON, SERVICE STATION MARKETS

Tax column includes 1c federal tax, state gasoline tax, also city and county taxes as indicated in footnotes, and inspection fees, as shown in general footnote. These prices in effect Nov. 16, 1936, as posted by principal marketing companies at their headquarters offices, but subject to later corrections

to "undivided" dealers: Ethyl and Conoco Bronze, 4c; Demand, 3c except Arkansas, 3.25c. To "divided" dealers thru territory; Ethyl and Conoco Bronze, 3.5c; Demand, 2.5c, except Utah and Idaho where full 100% or undivided dealer discount is applied to divided dealers also; thru Montana, effective March 24, 1936, on gasoline, off t.w. price to "undivided" dealers: Ethyl and Conoco Bronze, 2c; Demand, 1c; to "divided" dealers: Ethyl and Conoco Bronze, 1.5c; Demand 0.5c.

OKLAHOMA

	Dealer Tax	T.W. Prices Conoco Bronze	Demand	Kerosine T.W.
Muskogee	5	14	13	7
Oklahoma City	5	14	13	8
Tulsa	5	14	12	8

S. O. California

Standard Gasoline

	T.W.	Taxes	Total T.W.	S.S.	Kerosine T.W.
San Francisco, Cal.	13	4	17	18	11.5
Los Angeles, Cal.	12.5	4	16.5	17.5	9
Fresno, Cal.	13.5	4	17.5	18.5	11
Phoenix, Ariz.	14.5	6	20.5	21.5	†16
Reno, Nev.	14.5	5	19.5	20.5	13
Portland, Ore.	13.5	6	19.5	20.5	13.5
Seattle, Wash.	13.5	6	19.5	20.5	13.5
Spokane, Wash.	16.5	6	22.5	23.5	16.5
Tacoma, Wash.	13.5	6	19.5	20.5	13.5

Flight Gasoline (Third Grade)

San Francisco, Cal.	11.5	4	15.5	16.5	....
Los Angeles, Cal.	11	4	15	16	....
Fresno, Cal.	12	4	16	17	....
Reno, Nev.	13	5	18	19	....
Phoenix, Ariz.	13	6	19	20	....
Portland, Ore.	12	6	18	19	....
Seattle, Wash.	12	6	18	19	....
Spokane, Wash.	15	6	21	22	....
Tacoma, Wash.	12	6	18	19	....

†Includes 5c state tax.

Discount to dealers: on gasoline, off t.w. price on Standard Ethyl and Standard Gasoline, to 100% dealers, 3c; to split dealers, 2c; on Flight gasoline, both 100% and split dealers, 2c.

On Stanavo Aviation Gasoline, to all classes of dealers, 3c off t.w.

To commercial consumers: off tank wagon price: on single deliveries of 40 gallons and over, advance quantity discount extended at time of delivery on Stanavo Aviation, Standard Ethyl and Standard Gasolines, 3c. Flight Gasoline, 2c per gallon. S.s. schedule applies on single deliveries less than 40 gallons.

On kerosine in tank car, transport truck and trailer delivery, 3c off t.w. price; plant deliveries to jobbers, 2.5c below t.w.

Canada

Prices of Imperial Oil Ltd.

Per Imperial Gallon, which is 1.2 U.S. Gallons

Imperial Three Star Gasoline

Hamilton, Ont.	15	6	21	23.5	17
Toronto, Ont.	15	6	21	23.5	17
Brandon, Man.	22.8	7	29.8	32.8	22.3
Winnipeg, Man.	21.2	7	28.2	21.2	20.7
Regina, Sask.	22.5	7	29.5	32.5	22
Saskatoon, Sask.	25.3	7	32.3	35.3	24.8
Edmonton, Alta.	23.5	7	30.5	33.5	24.2
Calgary, Alta.	21	7	28	31	21.5
Vancouver, B. C.	15	7	22	26	23
Montreal, Que.	12.5	6	18.5	*	17.5
St. John, N. B.	16	8	24	28	18.5
Halifax, N. S.	16	8	24	28	18.5

*Imperial Oil Ltd. transferred stations to dealers; no prices available.

Discounts to dealers: Off s.s. prices:

Maritime Provinces, 4c to all classes of dealers. Quebec, except Montreal City, Prairie Provinces and British Columbia, except Vancouver, 3c to divided dealers, 4c to undivided dealers. Ontario and Montreal City, 2½c to divided dealers, 3½c to undivided dealers. Vancouver, 5c to undivided dealers, 4c to divided.

Aviation Gasoline

Following are tank car and/or tank wagon prices of aviation gasoline in principal marketing territories (Stanavo aviation in all territories except Continental Oil.) Tax column includes 1c federal tax, and state tax; also municipal taxes as indicated in footnotes.

In Effect Nov. 16, 1936

S. O. New Jersey

	Tank Car	T.W.
Bayonne, N. J.	10	12
Baltimore, Md.	10	12
Washington, D. C.		12.6
Richmond, Va.		14.2
Greensboro, N. C.		14.7
Raleigh, N. C.		16.6
Charleston, W. Va.		14.2

Colonial Beacon Oil Co.

	T.W.
Brooklyn, N. Y.	12.8
Buffalo, N. Y.	14.1
Boston, Mass.	14.5

S. O. Pennsylvania

Philadelphia, Pa.	13.1
Pittsburgh, Pa.	13.9

S. O. Louisiana

New Orleans, La.	12.3
Shreveport, La.	12.6

Prices in above four territories do not include state or federal taxes. They are for 74 octane grade aviation gasoline. An 80 octane product generally brings 0.5c premium and an 87 octane product, 1.5c premium over the 74 octane grade.

Note: S.s. prices in above four territories are generally 6c over t.w. prices. Above t.w. prices are net, with no discounts allowed for quantity purchases. T.w. prices are generally tank car price, plus freight, plus 2.5c per gal.

S. O. Ohio
Thru Ohio

	Consumer T.W.	Tax	Total Consumer T.W.
Stanavo Ethyl Aviation:			
73 octane	15.5	5	20.5
80 octane	16.5	5	21.5
87 octane	17.5	5	22.5

Discounts: For delivery on contract to hangar operators and resellers: 2c below commercial consumer posted t.w. price.

S. O. Indiana

Chicago, Ill.	14.4	4	18.4
Indianapolis, Ind.	15.3	5	20.3
Detroit, Mich.	15.9	4	19.9
Milwaukee, Wisc.	14.7	5	19.7
Minneapolis, Minn.	14.8	4	18.8
St. Louis, Mo.	13.1	*4	17.1
Kansas City, Mo.	13.8	*4	17.8
Fargo, N. D.	15.8	4	19.8
Huron, S. D.	15.3	5	20.3
Wichita, Kans.	13.3	4	17.3

*Includes 1c city tax.
**Includes 0.1c to cover sales tax.

Humble Oil & Refining Co.

	Tank Car
Baytown, Tex. (exclusive of taxes)	8.5

Continental Oil Co.

	T.W.	Tax	Total T.W.
Denver, Colo.	17	5	22
Cheyenne, Wyo.	17.5	5	22.5
Helena, Mont.	19.5	6	25.5
Salt Lake City, Utah.	19	5	24
Albuquerque, N. M.	15.5	*6.5	22

*Includes city tax of 0.5c.

S. O. California

Phoenix, Ariz.	16.5	6	22.5
Los Angeles, Cal.	14.5	4	18.5
San Francisco, Cal.	15	4	19
Reno, Nev.	16.5	5	21.5
Portland, Ore.	15.5	6	21.5
Seattle, Wash.	15.5	6	21.5
Spokane, Wash.	18.5	6	24.5

Note: For discounts, etc., see note under Standard and Flight gasoline above.

Naphtha (In Tank Wagon)

In Effect Nov. 16, 1936

(Net price in Tank Wagon; in Cents per Gallon)

S. O. New Jersey

	Mineral Spirits	V.M.&P. Naphtha
Baltimore, Md.	14	15.5
Newark, N. J.	12.5	14.5
Washington, D. C.	14	**17.5

**Steel bbls. only.

Socony-Vacuum Oil Co.

Buffalo, N. Y.	11.5	12.5
New York City	10.5	11.5
Rochester, N. Y.	12	....
Syracuse, N. Y.	14	....
Boston, Mass.	13	13.5
Bridgeport, Conn.	13	13.5
Providence, R. I.	13	14

2c off above t.w. prices in above two territories to large buyers in some instances.

Atlantic Refining Co.

Philadelphia, Pa.	11.5	12.5
Lancaster, Pa.	13	14
Pittsburgh, Pa.	12.5	14.5

Note: Prices for Mineral Spirits also apply to Stoddard Solvent; and prices for V. M. & P. Naphtha apply also to Light Cleaners Naphtha.

S. O. Ohio

	S.R. Solvent	V.M.&P. Naphtha
Thru Ohio	13.25	13.75

Note: V.M.&P. Naphtha prices also apply on Dry Cleaners naphtha and special Varnolene; Varnolene and Sohio Solvent 0.5c below these prices. Discounts to contract consumers, off t.w. price: 300 to 999 gals., 0.5c; 1,000 to 2,499 gals. 0.75c; 2,500 to 4,999 gals., 1c; 5,000 or more gals. 1.5c.

S. O. Indiana

	Oleum Spirits	V.M.&P. Naphtha	Stanisol
Chicago, Ill.	16.2	16.5	15
Detroit, Mich.	17.9	19	18
Kansas City, Mo.	13.3	14.3	13.3
St. Louis, Mo.	13.6	14.6	12.5
Milwaukee, Wis.	18.2	19.2	18.2
Minneapolis, Minn.	17.3	18.3	16.4

Note: Prices for V.M.&P. apply also to Light Cleaners Naphtha. All prices, with exception of Missouri points, include state tax. Prices shown are base prices, before discounts.

Naphtha (In Tank Cars)

In Tank Cars (F.o.b. refinery or seaboard terminal except Ohio, delivered price.)

	V.M.&P. Naphtha	Solvent
Baltimore	10	9.5
New York Harbor	10	9
Philadelphia district	10	9.5
Providence	10	9.5
Ohio points, delivered	9.25	*8.75

*This is on S.R. solvent.

Note: In Ohio, prices on D.C. naphtha and special Varnolene are same as V.M.&P.; on Varnolene and Sohio Solvent, prices are 0.5c less than on V.M.&P.

Latest Changes

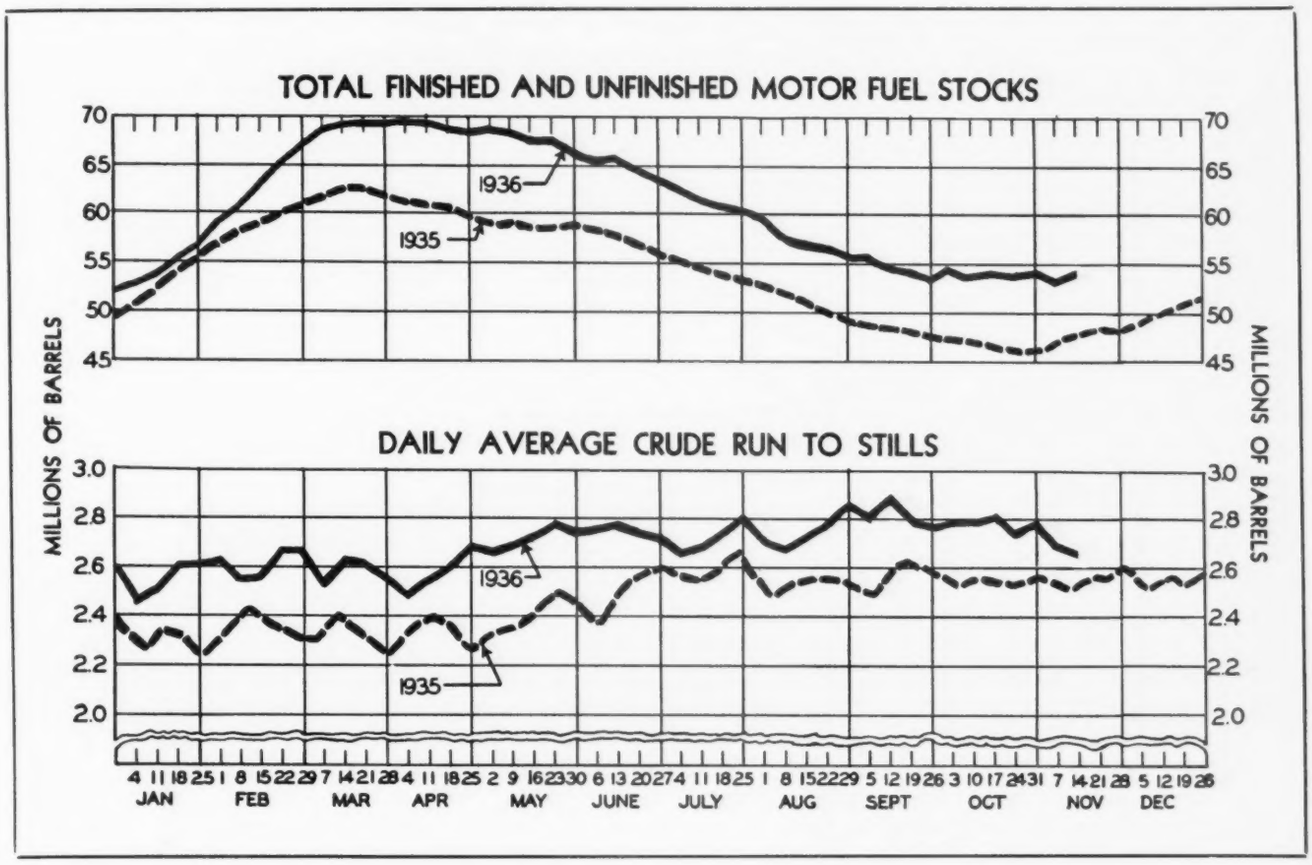
From Nov. 10 to Nov. 16 inclusive. Dates and amounts of changes shown. See table for full current prices. Changes are on gasoline unless kerosine is indicated.

S. O. Ohio—X-70 and Renown:

Cut 1c, through Muskingum county, Nov. 13.

(*Continued on page* 73)

U. S. Crude Runs and Gasoline Stocks as Reported Weekly by A. P. I.


TOTAL FINISHED AND UNFINISHED MOTOR FUEL STOCKS
MILLIONS OF BARRELS
70
65
60
55
50
45
1936
1935
DAILY AVERAGE CRUDE RUN TO STILLS
3.0
2.8
2.6
2.4
2.2
2.0
4 11 18 25 1 8 15 22 29 7 14 21 28 4 11 18 25 2 9 16 23 30 6 13 20 27 4 11 18 25 1 8 15 22 29 5 12 19 26 3 10 17 24 31 7 14 21 28 5 12 19 26
JAN FEB MAR APR MAY JUNE JULY AUG SEPT OCT NOV DEC

Refinery Crude Runs Cut 19,000 Barrels

NEW YORK, Nov. 17

AN ADDITIONAL decrease of 19,000 barrels in daily average crude runs to refinery stills the week ended Nov. 14 following a 112,000 barrel decrease the previous week, was reported at 89.9 per cent of the country's refining plants, according to the American Petroleum Institute. These plants operated at 75.1 per cent capacity the past week.

Motor fuel stocks increased 275,000 barrels the past week, standing at 53,991,000 barrels Nov. 14. Seven districts out of 10 reported increases, ranging from 33,000 barrels in the North Louisiana-Arkansas district, to 181,000 barrels in the Oklahoma-Kansas-Missouri district. Stocks decreased in the East Coast district 227,000 barrels; in Appalachian, 55,000 barrels; in the Louisiana Gulf, 107,000 bbls.

Refinery stocks of motor fuels increased 255,000 barrels, standing at 29,997,000 barrels on Nov. 14. In-transit and terminal stocks rose 3000 barrels, to 18,224,000 barrels and stocks of unfinished gasoline rose 17,000 barrels, to 5,770,000 barrels.

East Coast plants ran to stills 20,000 barrels less crude than the previous week and cut down plant operations nearly 5 per cent. Indiana-Illinois-Kentucky plants lowered runs 29,000 barrels. Increases of 18,000 barrels each were reported by Appalachian and Texas Gulf plants and an increase of 11,000 barrels in Oklahoma-Kansas-Missouri.

CURRENT REFINERY OPERATIONS

Districts	Per Cent Capacity Reporting	Daily Average Crude to Stills (Barrels) Week Ended		Per Cent of Reporting Capacity Operated Week Ended		Stocks (Thousands of Barrels) Total Finished and Unfinished Motor Fuel*		Total Finished Gas & Fuel Oil	Unfinished Gas & Fuel Oil	Cracked % Total Capacity Reporting	Gasoline Production Daily Av. Production (Barrels) Week Ended	
		Nov. 14	Nov. 7	Nov. 14	Nov. 7	Nov. 14	Nov. 7	Nov. 14	Nov. 7		Nov. 14	Nov. 7
East Coast	100.0	508,000	538,000	83.0	87.9	14,413	14,640	12,871	12,834	100.0	115,000	109,000
Appalachian	94.8	97,000	79,000	66.4	54.1	2,108	2,163	653	650	98.7	26,000	20,000
Ind., Ill., Ky.	96.2	394,000	423,000	86.2	92.6	8,610	8,503	6,401	6,419	99.7	128,000	134,000
Okla., Kans., Mo.	84.8	276,000	265,000	71.9	69.0	5,703	5,522	3,449	3,484	89.1	66,000	66,000
Inland Texas	48.5	108,000	113,000	67.5	70.6	1,542	1,499	1,743	1,775	70.9	31,000	29,000
Texas Gulf	97.0	603,000	585,000	84.9	82.4	7,179	7,062	8,477	8,514	78.5	150,000	137,000
La. Gulf	96.4	130,000	131,000	79.8	80.4	1,368	1,475	2,446	2,395	96.1	27,000	28,000
No. La., Ark.	90.0	58,000	57,000	80.6	79.2	336	303	407	408	95.7	8,000	9,000
Rocky Mt.	61.9	50,000	51,000	83.3	85.0	843	728	759	719	84.8	15,000	13,000
California	92.6	444,000	445,000	56.3	56.4	11,889	11,821	73,360	73,451	100.0	74,000	69,000
Total Reporting	89.9	2,668,000	2,687,000	75.1	75.6	53,991	53,716	110,566	110,000		640,000	614,000
Estimated U. S. Total (Bur. of Mines Basis).		2,900,000	2,920,000			57,584	57,309	112,841	112,924		685,000	660,000

*Includes stocks at refineries, in bulk terminals, pipe lines and in transit.

SEABOARD MARKETS, EXPORT AND COASTWISE

Prices do not include Federal tax. Where $ mark is shown, prices are per barrel of 42 U. S. gallons

Eastern Domestic

(Prices in cents per gallon tank car lots, unless otherwise noted, f.o.b. refinery or seaboard terminal, representing majority of sales and/or quotations. Inter-refinery sales not included. Florida and S. Carolina inspection tax not included.)

*Motor Gasoline

Prices Nov. 16	60-64 Octane	65 Octane and Above
New York harbor	6.25 – 6.50	6.50 – 6.75
New York harbor, barges	6.00 – 6.25	6.25 – 6.50
Philadelphia district	6.50	6.50 – 6.75
Baltimore district	6.50	6.75
Norfolk district	6.50 – 6.75	7.00
Wilmington, N. C. district	6.75	7.00
Charleston, S. C. district	6.75	7.00
Savannah district	6.75	7.00
Jacksonville district	6.75	7.00
Portland district	6.75 – 7.00	7.00 – 7.25
Boston district	6.50	6.75
Boston district, barges	6.25	6.50
Providence district	6.50	6.75
Providence district, barges	6.25	6.50

*Due to lack of companies offering U. S. Motor gasoline, 59 octane and below in the open market, prices for this grade are discontinued. Quotations nominally are 0.25c below those for 60-64 octane grade.

Water White Kerosine

Prices Nov. 16

New York harbor	4.50 – 4.625	Savannah district	5.25
N. Y. harbor, barges	4.375– 4.50	Jacksonville district	5.25
Philadelphia district	4.50 – 4.75	Portland district	5.125
Baltimore district	4.50 – 4.625	Boston district	4.625
Norfolk district	4.875	Boston dist., barges	4.50
Wilmington, N. C.	4.875	Providence district	4.625
Charleston, S. C. dist.	4.875	Providence, barges	4.50

*Fuel Oils

Prices Nov. 16	New Yqrk harbor	New York harbor, barges	Philadelphia district
No. 1	4.50 – 4.625	4.375– 4.50	4.50 – 4.75
No. 2	4.25	4.00 – 4.125	4.25
No. 3	4.25	4.00 – 4.125	4.25
No. 4	3.75 – 4.00	3.625– 3.875	3.75 – 4.00
No. 5 (per barrel)	$1.35	.....	$1.35
No. 6 (per barrel)	$1.15	.....	$1.15

	Baltimore district	Boston district
No. 1	4.50 – 4.625	4.625
No. 2	4.25	4.25
No. 3	4.25	4.25
No. 4	3.75 – 4.00	4.25
No. 5 (per barrel)	$1.35	$1.45
No. 6 (per barrel)	$1.15	$1.15

	Boston dist., barges	Providence district	Providence dist., barges
No. 1	4.50	4.625	4.50
No. 2	4.125	4.25	4.125
No. 3	4.125	4.25	4.125
No. 4	4.125	3.75 – 4.00	3.625

*Fuel oils meet specifications of U. S. Commercial Standards CS12-35.

	Bunker Oil Grade C Per Barrel	Diesel Oil Ships' Bunkers Per Barrel	Gas Oil 28-34 Gravity Per gallon	Diesel Oil Shore Plants Per gallon
New York harbor	*$1.15	*$1.65	4.25	4.25
Philadelphia dist.	*$1.15	*$1.65	4.25	....
Baltimore district	*$1.15	*$1.65	4.25	....
Norfolk district	*$1.15	*$1.785	4.25	....
Charleston district	$1.10	$1.65	....	....
Savannah district	$1.10	$1.89	....	4.75
Jacksonville dist.	$1.10	$1.995	....	4.75
Tampa district	$1.10	$1.995	....	....
Portland district	$1.25	$1.75	....	....
Boston district	$1.15	*$1.65	....	....
Providence district	$1.15	$1.65	....	....

*Lighterage for bunker oil, 5c per bbl. additional; for Diesel oil, 6.5c per bbl. additional.

Pacific Export

(Quotations are at seaboard, Los Angeles, in cargo lots, cents per gallon, except where otherwise noted.)

Prices—	Nov. 16	Nov. 9	Nov. 2
53-55 U. S. Motor	5.00 – 5.25	5.00 – 5.25	5.00 – 5.25
400 e.p. blend 65 Octane and above	5.25 – 5.75	5.25 – 5.75	5.25 – 5.75
38-40 w.w. kerosine, 150 fire point	4.00 – 5.00	4.00 – 5.00	4.00 – 5.00
41-43 w.w. kerosine	4.50 – 5.00	4.50 – 5.00	4.50 – 5.00
44 water white kerosine	5.00	5.00	5.00
Prime wh. kerosine	3.50 – 4.25	3.50 – 4.25	3.50 – 4.25
In Cargo lots, per barrel			
Diesel fuel oil, above 23.9°	$1.00 –$1.15	$1.00 –$1.15	$1.00 –$1.15
Diesel fuel oil, under 23.9°	$0.95 –$1.10	$0.95 –$1.10	$0.95 –$1.10
30-34 gas oil	$1.05 –$1.15	$1.05 –$1.45	$1.05 –$1.15
Grade C fuel oil	$0.75 –$0.90	$0.75 –$0.90	$0.75 –$0.90
Pacific Export (cont'd)	Nov. 16	Nov. 9	Nov. 2
In Ships' Bunkers, or deep tank lots, per barrel:			
Diesel fuel oil, above 23.9 gravity	$1.00 –$1.16	$1.00 –$1.16	$1.00 –$1.16
Diesel, under 23.9 gravity	$0.95 –$1.06	$0.95 –$1.06	$0.95 –$1.06
Grade C fuel oil	$0.90 –$0.95	$0.90 –$0.95	$0.90 –$0.95
Cased Goods:			
Gasoline, U. S. Motor	$1.30 –$1.50	$1.30 –$1.50	$1.30 –$1.50
Gasoline, 400 e.p. blend	$1.45 –$1.65	$1.45 –$1.65	$1.45 –$1.65
38-40 w.w. kerosine, 150 fire point	$1.10 –$1.25	$1.10 –$1.25	$1.10 –$1.25
Kerosine, prime white	$1.05 –$1.15	$1.05 –$1.15	$1.05 –$1.15

New York Export

(Prices in cents per gallon in barrels, F.a.s. New York)

Cylinder Oils (Pennsylvania Products)

Bright stock:			
Light, 25 pour point	27.50	27.50	27.50
Dark, 25 pour point	27.00	27.00	27.00
Neutral oil:			
200 3 color, 25 pour point	29.00	29.00	29.00
150 3 color, 25 pour point	25.50	25.50	25.50
600 Warren E filtered,	22.50 –23.00	22.50 –23.00	22.50 –23.00
600 stm. rfd., unfiltered	19.50 –20.00	19.50 –20.00	19.50 –20.00
650 stm. rfd. unfiltered	21.00 –21.50	21.00 –21.50	21.00 –21.50
600 flash, steam refined	22.00 –22.50	22.00 –22.50	22.00 –22.50
630 flash, steam refined	24.00	24.00	24.00

Wax Domestic *and* Export

(Prices in cents per pound. Tests made by A. S. T. M. methods. Melting points shown below, however, are A. M. P., 3° higher than A. S. T. M. (E. M. P.) melting points. Export prices are f.a.s. carload lots. Domestic prices are f.o.b. refineries in New York and New Orleans districts, in bags, carload lots, with 0.2c discount allowed for shipment in bulk. Scale solid and fully refined slabs in bags.)

	New York		New Orleans	
Prices—Nov. 16	*Domestic*	*Export*	*Domestic*	*Export*
124-6 Y.C. scale	2.40 – 2.45	2.40 – 2.45	2.40 – 2.45	2.40 – 2.45
122-4 W.C. scale	2.40 – 2.45	2.40 – 2.45	2.40 – 2.45	2.40 – 2.45
124-6 W.C. scale	2.40 – 2.50	2.40 – 2.50	2.40 – 2.50	2.40 – 2.50
123-5 Fully refined	4.45	4.125	4.45	4.125
125-7 Fully refined	4.55	4.25	4.55	4.25
128-30 Fully refined	4.80	4.50	4.80	4.50
130-2 Fully refined	5.05	4.75	5.05	4.75
133-5 Fully refined	*5.35	5.25	*5.35	5.25
135-7 Fully refined	*5.60	5.50	....	....

*Shipment either in bags or in bulk.

Gulf Coast

(Prices are f.o.b. ship at Gulf oil terminals representing traders' opinions except prices specified to the contrary. Prices cover bulk shipments of 20,000 barrels or more, unless otherwise noted.)

Motor Gasoline

For Domestic Shipment

Prices—	Nov. 16	Nov. 9	Nov. 2
59 octane and below	5.50	5.50	5.50
60-64 octane number	5.75 – 5.875	5.75 – 5.875	5.875
65 octane and above	6.00	6.00	6.00

Fuel Oils

No. 1 Fuel oil	3.875– 4.00	3.875– 4.00	3.875– 4.00
No. 2 Fuel oil	3.50	3.50	3.375– 3.50
No. 4 Fuel oil	3.25	3.25	3.125– 3.25

Kerosine

41-43 w.w.	4.00	4.00	4.00

Gasoline

For Export Shipment

U. S. Motor gasoline	5.125	5.125	5.125
60-62, 400 e.p. gasoline	5.25	5.25	5.25
61-63, 390 e.p. gasoline	5.375	5.375	5.25 – 5.375
64-66, 375 e.p. gasoline	5.625	*5.50	5.375– 5.50

*Sale only.

Kerosine

44 water white	4.125	4.125	4.125
41-43 water white	3.75 – 3.875	3.75 – 3.875	3.75 – 3.875
41-43 prime white	3.625– 3.75	3.625– 3.75	3.625– 3.75

(*Continued on page 72*)

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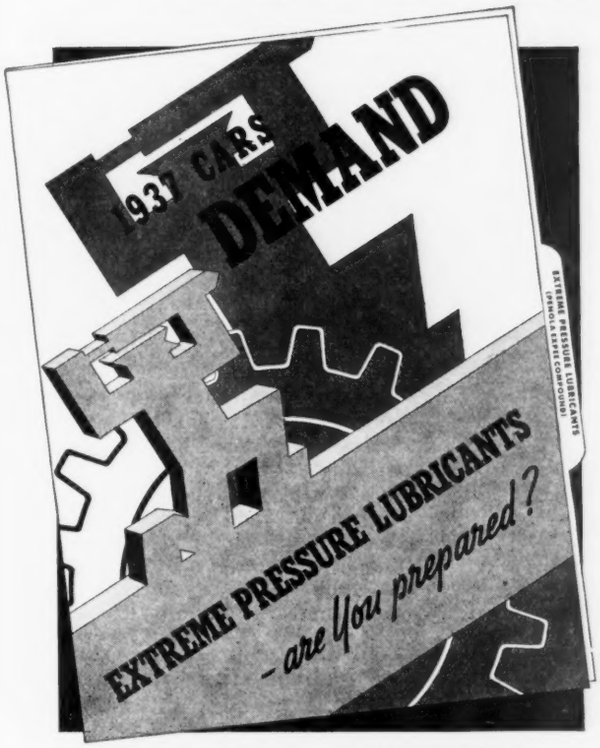

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SEABOARD MARKETS, EXPORT AND COASTWISE

Prices do not include Federal tax. Where $ mark is shown, prices are per barrel of 42 U. S. gallons

(*Continued from page 70*)

Gas and Bunker Oils

For Domestic and/or Export Shipment

Prices	Nov. 16	Nov. 9	Nov. 2
*26-30 translucent gas oil	3.25	3.25	3.125– 3.25
*30 plus translucent gas oil	3.25	3.25	3.125– 3.25
*30 plus transp. gas oil	3.25 – 3.375	3.25 – 3.375	3.25
Diesel Oil Ships' bunkers	$1.50	$1.50	$1.50
Grade C bunker oil, for ship's bunkers, per bbl.	†$0.95	†$0.95	†$0.95
Grade C bunker oil, per bbl. in cargoes	$0.95	$0.95	$0.95

*Less than ½ of 1% sulphur. †Lighterage 5c per bbl. additional.

Mexican Crude and Bunker Oils

(F.o.b. Steamer, Tampico)

Heavy Panuco crude taxes to be paid, per bbl.	$0.95	$0.95	$0.95
Grade C bunker oil, ship's bunkers, taxes paid, per bbl.	$0.97	$0.97	$0.95

Mid-Continent Lubricating Oils

(Prices in cents per gallon in bbls. f.a.s. Gulf terminals. In drums and new barrels, 0.5c to 1c higher per gal. in some instances.)

190-200 vis. D 210 bright stock	26.00	26.00	26.00
150-160 vis. D 210 bright stock			
0-10 pour point	23.00	23.00	23.00
10-25 pour point	22.50	22.50	22.50
25-40 pour point	22.00	22.00	22.00
150-160 vis. E 210 brt. stock	22.00	22.00	22.00
120 vis. D 210 bright stock	21.00	21.00	21.00
180 vis. No. 3 color neutral Oil:			
0-10 pour point	16.50	16.50	16.50
15-30 pour point	16.00	16.00	16.00
200 vis. No. 3 color neutral Oil:			
0-10 pour point	17.00	17.00	17.00
15-30 pour point	16.50	16.50	16.50

Mid-Continent Lubricating Oils (Cont'd.)

Prices	Nov. 16	Nov. 9	Nov. 2
600 s.r. olive green	12.25	12.25	12.25
600 s.r. dark green	11.00	11.00	11.00
631 s.r.	18.00 –18.50	18.00 –18.50	18.00 –18.50

South Texas Lubricating Oils

(Viscosity at 100° F., pour point 0. Tanker, f.o.b. Gulf oil terminals, for export shipment)

Unfiltered Pale Oils:			
Vis. Color			
100 No. 3	5.00 – 5.25	5.00 – 5.25	5.00 – 5.25
200 No. 3	6.00 – 6.50	6.00 – 6.50	6.00 – 6.50
300 No. 3	6.50 – 7.00	6.50 – 7.00	6.50 – 7.00
500 No. 3½	7.50 – 7.875	7.50 – 7.875	7.50 – 7.875
750 No. 4	8.75 – 9.00	8.75 – 9.00	8.75 – 9.00
1200 No. 4	9.00 – 9.25	9.00 – 9.25	9.00 – 9.25
2000 No. 4	9.75 –10.00	9.75 –10.00	9.75 –10.00
Red Oils:			
Vis. Color			
100 No. 5-6	5.00 – 5.25	5.00 – 5.25	5.00 – 5.25
200 No. 5-6	5.875– 6.50	5.875– 6.50	5.875– 6.50
300 No. 5-6	6.25 – 6.75	6.25 – 6.75	6.25 – 6.75
500 No. 5-6	7.25 – 7.50	7.25 – 7.50	7.25 – 7.50
750 No. 5-6	8.75 – 9.00	8.75 – 9.00	8.75 – 9.00
1200 No. 5-6	9.00 – 9.25	9.00 – 9.25	9.00 – 9.25
2000 No. 5-6	9.75 –10.00	9.75 –10.00	9.75 –10.00

Note: Red oil prices shown above cover oils with green cast; prices for blue cast red oils are slightly lower in some cases.

Tanker Rates

(Approximate tanker freight rates to Continental ports, in shillings per ton of 2240 pounds. British sterling; to U. S. ports cents per barrel)

	Crude &/or Fuel		Refined Oil &/or Spirits	
Rates—Nov. 16	Last Paid	Owners Ask	Last Paid	Owners Ask
Calif.-U.K./Cont.*	20/	20/-21/	17/	18/-19/
Gulf-U.K./Cont.*	12/	12/	11/6	11/6-12/
Calif.N. Atlantic (not E. of N. Y.)	....	†70c	....	†70c
Gulf-N. Atlantic** (not E. of N. Y.):				
Heavy Crude & Fuel, (10 to 19.9 gravity)	†31c	†35c	....	....
Light Crude, (30 grav. or lighter)	29c	†35c	....	....
Gasoline	....	....	24c	†35c
Kerosine	....	....	†25c	†35c
Light Fuel	....	....	†26c	†35c

Note: Dirty boat quotations are enlarged to cover, "Fuel and Light Crude" quotations.

*Continental ports in range between Bordeaux and Hamburg, both inclusive.

**Venezuela loading same rate: Tampico 2c to 3c per bbl. additional †Nominal.

COMING MEETINGS

(*Continued from page 9*)

Northwest Petroleum Association, North Dakota division, Patterson Hotel, Bismarck, Jan. 18, 19.

Northwest Petroleum Association, Minnesota division, West Hotel, Minneapolis, Jan. 21, 22.

Kentucky Petroleum Marketers Association, Brown Hotel, Louisville, Ky., Feb. 8, 9, 10.

Ohio Petroleum Marketers Association, Hotel Deshler-Wallick, Columbus, Ohio, February 23, 24 and 25.

Wisconsin Petroleum Association, annual convention and equipment show, Milwaukee, Wis., Feb. 23, 24 and 25.

American Society for Testing Materials, 1937 Regional Meeting and Committee Week, Palmer House, Chicago, Ill., March 1 to 5.

American Association of Petroleum Geologists, Los Angeles, Calif., sometime in March.

American Institute of Mining & Metallurgical Engineers, Open Hearth Conference, Birmingham, Ala., April 7 to 9.

National Petroleum Association, 34th semi-annual meeting, Cleveland Hotel, Cleveland, Ohio, April 15 and 16.

Sales Training Course For Station Men

CAMBRIDGE, Mass., Nov. 13. — A course of interest to New England petroleum marketers will be repeated this year by the Massachusetts Department of Education, Division of University Extension, at the Massachusetts Institute of Technology.

This course is offered to provide a background for service station operators and employes, automotive service men, petroleum products salesmen, and others interested in the petroleum industry.

The course will be conducted by W. G. Ball, Jr., petroleum marketing engineer. The enrollment fee for the course of eight lectures is $4.

Gulf Increases Capital Stock

Stockholders of Gulf Oil Corp. approved an increase in capital stock to $300,000,000 from $120,000,000 at a special meeting held the past week. At the same time J. F. Drake, president, said the management would recommend a 100 per cent stock dividend be declared, payable before the year end.

It is believed advisable to capitalize the large cash surplus and plant equipment that has been built up over a period of years.

Following the special meeting, directors met and declared a special dividend of 50 cents and a quarterly dividend of 25 cents on the present outstanding stock, payable Dec. 10 to record of Nov. 20.

Purchase Gasoline Stations

NEW YORK, Nov. 10.—Five service stations of the Northern New Jersey Oil Co. have been sold to the Gulf Oil Corp., it was announced here today. The stations are in Montclair, Orange, Passaic and Belleville, New Jersey.

Mild Weather *Slows* Light Fuels

MILDER weather in some districts last week had a tendency to reduce trading of light fuels. Jobbers' tanks were said to be well filled. Until a sustained cold wave increases home consumption, jobbers probably will not be buying much oil, reports indicated.

Refiners appeared satisfied with movement, however, and in cases where orders were not sufficient to absorb current production, oil was being put into storage. Even though trading was not as active, prices continued steady.

Heavy fuels remained steady. No change was noted in the rate of industrial operations or in takings of the heavy fuels.

* * *

NEW YORK, Nov. 14.—More activity was noted in light oil markets the past week at eastern seaboard terminals as the weather was more favorable to consumption. However, traders said it was not yet cold enough to bring heavy demand.

Suppliers were watching the seamen's strike closely and endeavoring to keep their storage well filled. No serious delays in cargo shipments from the Gulf have yet resulted from the strike, it was reported, but suppliers were taking no chances on being caught short in case of a tieup.

Tank car and barge prices for light fuels remained unchanged. Traders said, however, that the market was steady.

Heavy fuel movement continued good. Prices were unchanged, both for ships' bunkers and short plant delivery, but reports of a possible advance were frequently heard. Continued tightness in the Gulf market, delays in cargo deliveries and tightness in the boat market were given as the reasons for a possible advance.

* * *

TULSA, Nov. 14.—Heavy fuel oils came to the foreground in the Mid-Continent last week. Prices advanced in several districts. The advances were more general in Oklahoma and North Texas.

With industrial plants running full blast, buyers have entered the Mid-Continent for more heavy oils. At present stocks of these oils are reported to be low. Several suppliers were sold out.

Light fuels also were in demand as northern distributors renewed their buying efforts. Resale agents found it difficult to obtain supplies in the open market. Many refiners were supplying only their contract customers. One refiner however, indicated he might sell No. 1 p.w. oil in the open market if prices reached 3.5 cents, Group 3.

* * *

CHICAGO, Nov. 14.—While prices of all grades of fuel oil remained steady in the Mid-Western market the second week of November, trading was not as active due largely to milder weather. Buyers and resellers reported less difficulty in obtaining supplies than they had experienced earlier in the season.

Consumption was reduced somewhat by milder weather. Thus jobber demand slackened somewhat.

Observers have maintained that jobber storage is well filled and that until home consumption increases, jobbers will not be active in the market again. That jobber tanks are well filled is borne out to some extent by the report of the Bureau of Mines which shows that demand for gas and fuel oil in September was nearly 5,000,000 barrels above demand for September, 1935.

Industrial fuels remained in good balance as to supply and demand. Prices were firm.

FUEL OILS

Prices in Effect Nov. 16, 1936

Following are tank wagon prices of various grades of heating oil at the points shown in various territories. Prices are in cents per gallon.

	No. 1	No. 2	No. 3	No. 4
S. O. New Jersey				
Newark, N. J.	7.25	6	6	6
Atlantic City, N. J.	8	6.5	6.5	6
Baltimore, Md.	8	6	6	5.5
Washington, D. C.	8.00	6.75	6.75	6.75

Discounts: At Newark and Atlantic City, purchasers taking 50,000 gals. get discount of 0.5c per gal.

Socony-Vacuum Oil Co., Inc.
(S. O. New York Division)

New York City	7	6.50	6.50	6.00
Albany, N. Y.	7.75	6.50	6.50	6.00
Rochester, N. Y.	8.25	7.00	7.00	7.00
Boston, Mass.	7	6.25	6.25	6.25
Bangor, Me.	6.50	5.50	5.50	5.50
Manchester, N. H.	8	6.75	6.75	6.75
Burlington, Vt.	8.75	7.00	7.00	7.00
New Haven, Conn.	7.5	5.50	5.50	5.50
Providence, R. I.	7.00	6.25	6.25	5.75

Discounts: At New York City, consumers taking 10,000 to 50,000 gals., get 0.25c per gal. discount when minimum amount has been reached; above 50,000 gals., 0.5c.

Atlantic Refining

Philadelphia, Pa.	6.75	5.50	5.50	5.00
Allentown, Pa.	7.75	6.50	6.50	6.50
Wilmington, Del.	7.25	6.00	6.00	5.50
Springfield, Mass.	7.50	6.00	....	6.00
Worcester, Mass.	7.75	6.75	....	6.75
Hartford, Conn.	7.00	6.50	....	6.50

S. O. Ohio

*Ohio Statewide	8	7.50	7	6.75

Note: S. O. Ohio prices are for hose dumps, bucket dumps are 0.5c per gallon higher.

Except Cleveland Division and City of Toledo. In Cleveland Division (Cuyahoga, Lake and Geauga counties), No. 1 price is same as statewide; Nos. 2, 3 and 4 are 0.5c higher; No. 5 is priced 0.25c lower than No. 4. In Toledo No. 2 is 0.5c lower than statewide, others same.

S. O. Indiana

Stanolex Fuel and Furnace Oils

	No. 1 Fuel	Stanolex Furnace
Chicago	6.75	6.75
Indianapolis	....	*11.7
Detroit	6.8	6.8
Milwaukee	8	7.3
Minneapolis	7.25	7.25
Sioux City	7.1	7.1
St. Louis	7.5	6.8
Kansas City	6.5	6.5

*Includes state tax of 4c.

Note: Small-lot deliveries of light fuel oils range up to 2c higher than above quotations.

TANK WAGON CHANGES

(*Concluded from page* 68)

Corrections

Notation of amount of change and dates not previously shown in table. Table in this issue is corrected to show these changes. Changes are on gasoline unless kerosine is indicated.

S. O. New Jersey—Essolene:

Price basis to commercial consumers, published as a footnote under S. O. New Jersey table on page 69 of Nov. 11 issue, was in error in reporting the states in which the new basis is in effect. Story on page 16 of that issue was correct and footnote is corrected in this issue.

Socony-Vacuum—Kerosine:

Cut 0.5c, Binghamton, Oct. 1.
Cut 0.25c, Syracuse, Oct. 1.
Cut 1.5c, Bangor, Oct. 15.

Atlantic Refining—White Flash gasoline:

New price basis to commercial consumers, through territory, Nov. 5. See footnote under Atlantic table.

S. O. Louisiana—Kerosine:

Cut 1.5c, Alexandria, Oct. 21.
Cut 2c, New Orleans, Oct. 20.

Essolene:

Price basis to commercial consumers was not revised, Nov. 2, as published in a footnote under S. O. La. table in Nov. 11 issue, page 70. This footnote is corrected in this issue.

Fuel Oil

Socony-Vacuum:

No. 1 fuel cut 1.5c, Nos. 2, 3 and 4, cut 1c, Bangor, Oct. 15.

Cut 0.25c, Albany, Sept. 30.

Nos. 2, 3 and 4 cut 0.25c, Manchester, June 4.

Nos. 2, 3 and 4 cut 0.75c, New Haven, June 23.

Nos. 2 and 3 cut 0.25c, Providence, May 21; No. 4 cut 0.25c, May 26.

CRUDE OIL MARKETS

Prices in $ per bbl. of 42 U. S. gals. at the well. A. P. I. gravity. Prices are effective as of 7 a. m. of dates as given

Eastern Fields

Posted by Joseph Seep Purchasing Agency

(Effective Jan. 13, 1936, except Corning Sept. 18, 1936)

Penna. Grade Oil in Southwest Penna. Pipe Lines.....$2.17
Penna Grade Oil in Eureka Pipe Lines (West Virginia).....$2.12
Penna. Grade Oil in Buckeye Pipe Lines (Macksburg, O.).....$1.97
Corning Oil in Buckeye Pipe Lines (Ohio)$1.32

Posted by Other Companies

Tide Water Pipe Co., Ltd. Bradford-Allegheny district (Penna. and N. Y.) (Effective Jan. 13, 1936)..$2.45
The Pennzoil Co.: (Effective Jan. 13, 1936) Penna. Grade Oil in National Transit Lines.....$2.42
Ashland Oil & Transportation Co.: Somerset Oil in Ashland Lines (Ky.): (Effective Jan. 9, 1936)
Big Sandy River.....$1.30
Kentucky River.....$1.38

*The Pennzoil Co. posts $2.42 in Cochran, Franklin, Hamilton and Doolittle, Pa. fields; prices in other lower districts range down to $2.37 per bbl. at well.

Michigan

Posted by Pure Oil Co.

Midland, Midland County (Sept. 16, 1936)$1.32

Posted by Simrall Pipe Line Corp.

(Effective Sept. 16, 1936)

West Branch and equal grades.....$1.16
Beaverton, Crystal, Greendale, Porter and equal grades.....$1.32

Central States Fields

Posted by Ohio Oil Co.

(Effective Jan 9, 1936)

Illinois, Princeton.....$1.23

(Effective Sept. 22, 1936)

Lima.....$1.15

(Effective Nov. 1, 1936)

Owensboro (Western Ky.).....$1.28

Posted by Stoll Oil Refining Co.

(Effective Jan. 9, 1936)

Stoll Pipe Line Oil (Ky.).....$1.28

Canadian Fields

Posted by Imperial Oil Limited

Western Ontario

(Effective Sept. 9, 1933)

Petrolia.....$2.10
Oil Springs.....$2.17

Alberta—Turner Valley

(Prices f.o.b. field tankage)

(Effective Feb. 3, 1936)

Crude:		Naphtha:	
40-44.9	$1.55	†Clear	$2.70
45-49.9	$2.12	†Discolored	$2.46

50 and above $2.32

†Clear naphtha: 22 color; 10 lbs. vapor pressure, Reid method; 90% recovery; end point, 410°. Discolored naphtha: same specifications as for clear naphtha except color.

Mid-Continent

Posted by Stanolind Crude Oil Purchasing Co.

(Effective Jan. 9, 1936)

(In Oklahoma Kansas)	(In North-North Central Texas)
Below 29.....$0.94	$0.84
29-29.9..... 0.96	0.86
30-30.9..... 0.98	0.88
31-31.9..... 1.00	0.90
32-32.9..... 1.02	0.92
33-33.9..... 1.04	0.94
34-34.9..... 1.06	0.96
35-35.9..... 1.08	0.98
36-36.9..... 1.10	1.00
37-37.9..... 1.12	1.02
38-38.9..... 1.14	1.04
39-39.9..... 1.16	1.06
40 and above.... 1.18	1.08

Above Stanolind prices met as follows: Jan. 9, by The Texas Co. in North and North Central Texas; Continental Oil in all three states.

Note: Stanolind prices in Okla.-Kans. are for quantities computed by 97% tank tables. In Texas, 99% tank tables are used, volume corrected to 60° F., and deduction for full b.s. & w. content.

Posted by Carter Oil Co.

In Oklahoma

(Effective Jan. 9, 1936)

Below 25	$0.86	33-33.9	$1.04
25-25.9	0.88	34-34.9	1.06
26-26.9	0.90	35-35.9	1.08
27-27.9	0.92	36-36.9	1.10
28-28.9	0.94	37-37.9	1.12
29-29.9	$0.96	38-38.9	$1.14
30-30.9	0.98	39-39.9	1.16
31-31.9	1.00	40 and above	1.18
32-32.9	1.02		

Jan. 9, Carter's Oklahoma gravity and price schedule met in Oklahoma-Kansas by Sinclair Prairie, and Humble's West Central Texas schedule met in North and North Central Texas where Sinclair-Prairie buys. Same day, Shell Petroleum met Carter in full in Oklahoma-Kansas.

Posted by Magnolia Petroleum Co.

(Effective Jan. 9, 1936)

In Oklahoma, same schedule as Carter Oil, which see above, beginning with below 25, at $0.86 and ending with 40 & above, at $1.18.

In Texas: North and North Central, including Burkburnett, Archer, Stephens, Henrietta, Electra, Comanche and Olden; and in Central Texas, including Mexia, Wortham, and Panola county, same gravity and price schedule as Humble in West Central Texas, which see below, beginning with below 29 at $0.84, and ending with 40 and above, at $1.08.

Posted by Humble Oil & Refining Co.

Texas Fields

*(*West Central Texas)*

(Effective Jan. 9, 1936)

Below 29	$0.84	35-35.9	$0.98
29-29.9	0.86	36-36.9	1.00
30-30.9	0.88	37-37.9	1.02
31-31.9	0.90	38-38.9	1.04
32-32.9	0.92	39-39.9	1.06
33-33.9	0.94	40 and above.	1.08
34-34.9	0.96		

*Includes Brown, Callahan, Coleman, Comanche, Eastland, Fisher, Haskell, Jones, Shackelford, Stephens, Throckmorton and Young counties.

Shell Petroleum Corp., on Jan. 9, met Humble in Fisher county, except that Shell posts five lower grades, beginning with below 25 gravity at $0.76; 25-25.9, $0.78; 26-26.9, $0.80; 27-27.9, $0.82; and 28-28.9, $0.84; rest of schedule same as Humble's in West Central Texas.

†Effective Dec. 1, 1934, Humble prices are based on 99% tank tables at 60F. Allowance or deduction of 1% is made for each 25° change in temperature above or below 60F.

**East Central Texas*

(Effective Jan. 9, 1936)

Below 29	$0.91	35-35.9	$1.05
29-29.9	0.93	36-36.9	1.07
30-30.9	0.95	37-37.9	1.09
31-31.9	0.97	38-38.9	1.11
32-32.9	0.99	39-39.9	1.13
33-33.9	1.01	40 and above.	1.15
34-34.9	1.03		

*Including Anderson, Cherokee, Limestone, Navarro and Van Zandt counties.

Stanolind Oil & Gas Co., Jan. 20, posted in Marion County (East Central Texas), below 29 oil at $0.86, plus 2c differential, to 40 and above at $1.10.

Jan. 9, Sinclair-Prairie met Humble's prices in Mexia.

Panhandle Texas

Posted by Humble Oil & Refining Co.

(Effective Jan. 9, 1936)

	Gray County	Carson-Hutchinson
Below 35	$0.86	$0.81
35-35.9	0.88	0.83
36-36.9	0.90	0.85
37-37.9	0.92	0.87
38-38.9	0.94	0.89
39-39.9	0.96	0.91
40 & above	0.98	0.93

Jan. 9, above prices met by Sinclair-Prairie, Magnolia and The Texas Co. in the entire area, also by Continental Oil in Carson-Hutchinson.

East Texas

(Effective Jan. 9, 1936)

Stanolind, Humble, Shell, Sinclair-Prairie, Texas, Sun Oil and Magnolia.....$1.15

Shell also posted on Jan. 9, in Livingston area, Polk County, Texas, $1.15.

Northeast Texas

(Posted by Humble, Nov. 1, 1936)

Talco.....$0.65

(Posted by Magnolia, May 1, 1936)

Cass County (Rodessa field):
Below 29.....$0.86
29-29.9..... 0.88
Rest of schedule same as S. O. La. posts in Rodessa, which see below.

West Texas and New Mexico

Posted by Humble Oil & Refining Co.

(Effective Jan. 14, 1936)

(Including Andrews, Crane, Crockett, Ector, Glasscock, Howard, Winkler and Upton Counties, Texas, and Lea county, New Mexico).

Below 29	$0.75	33-33.9	$0.84
29-29.9	0.76	34-34.9	0.86
30-30.9	0.78	35-35.9	0.88
31-31.9	0.80	36 & above	0.90
32-32.9	0.82		

Pecos, West Texas.....$0.85

Posted by Continental Oil Co.

(Effective Jan. 9, 1936)

Artesia, Jackson and Maljamar pools, N. M. $0.80

Jan. 16, Magnolia met Humble in Crane, Upton, Howard, Glasscock, Mitchell and Winkler.

Jan. 9, Texas Co. posted Winkler and Lea counties at $0.85; Crane and Upton, $0.80

Shell Petroleum Corp., on Jan. 23, met Humble in Crane, Glasscock, Howard, Pecos (except Yates shallow pool), Winkler, and Upton counties, Tex., and in Lea County, N. Mex. On Jan. 9, Shell posted in Yates shallow pool in Pecos county, Tex., $0.75.

South and Southwest Texas

Posted by Humble Oil & Refining Co.

(Effective Jan. 14, 1936)

Darst Creek	$0.97	Pettus	$1.25
Salt Flat	0.97	Tomball	1.30

(Effective Nov. 1, 1936)

Saxet	$0.95	Mirando	$0.90
Heyser heavy	0.90	Placedo heavy	0.90
Heyser light	1.15	Taft	0.95

Shell Pet. Corp. on Jan. 9, posted $0.97 in Salt Flat district, Tex.

*Anahuac and *Dickinson (including Flour Bluff, Nov. 1, 1936)

(Effective Jan. 9, 1936)

30-30.9	$1.04	36-36.9	$1.16
31-31.9	1.06	37-37.9	1.18
32-32.9	1.08	38-38.9	1.20
33-33.9	1.10	39-39.9	1.22
34-34.9	1.12	40 & above	1.24
35-35.9	1.14		

*Anahuac in Chambers county; Dickinson in Galveston.

Jan. 9, The Texas Co. posted $0.97 for Darst Creek.

Jan. 9, Magnolia posted $0.97 in Darst Creek; $1.30 in Tomball; $0.90 in Luling; $1.00 in Lytton Springs; $1.10 for Cleveland, Liberty county, Tex.; $1.03 in Hardin, Liberty county, Tex. Nov. 1, 1936, posted $0.90 for Mirando, Tex.

Posted by Humble

Conroe and Raccoon Bend

(Deep sand crudes)

(Effective Jan. 9, 1936)

35-35.9	$1.24	38-38.9	$1.30
36-36.9	1.26	39-39.9	1.32
37-37.9	1.28	40 & above	1.34

Jan. 9, Texas Co. met above prices.

North Louisiana-Arkansas

Posted by Standard Oil Co. of Louisiana

(Effective Jan. 10, 1936)

(In Caddo, Homer, Haynesville, Sabine, De Soto, Rodessa, Sarepta, Carterville, El Dorado, and Miller county).

Below 25	$0.78	33-33.9	$0.96
25-25.9	0.80	34-34.9	0.98
26-26.9	0.82	35-35.9	1.00
27-27.9	0.84	36-36.9	1.02
28-28.9	0.86	37-37.9	1.04
29-29.9	0.88	38-38.9	1.06
30-30.9	0.90	39-39.9	1.08
31-31.9	0.92	40 and above.	1.10
32-32.9	0.94		

Smackover, Ark.....$0.75
Nevada, Ark..... 0.65
Urania, La. (La. Oil Refg. Co., Jan. 1, '34) 0.87
Tepetate, La. (Continental Oil, Jan. 9, '36)$1.12

The Texas Co., effective Jan. 9, posted in No. La.-Ark. same prices as Humble posts in West Central Texas. It also posted $0.80 for Smackover and $1.12 for La Fitte, La.

Magnolia Petroleum Co., effective Jan. 16, posted on No. La.-Ark. crude, prices beginning with $0.86 for below 29 gravity, plus 2 cent differential to 40 and above, at $1.10; this posting includes Rodessa, beginning March 16, 1936. It also posted on the same day, Eldorado (East Field), and Smackover, Ark., $0.75; Lockport, La., below 20 gravity, at $0.92, plus 2c differential, to 34 and above, which is $1.22; and for Iowa, La. and Cameron-Meadow field Cameron Parish, La., below 20 at $0.82, plus 2c differential, to 34 and above, at $1.12.

Stanolind Oil & Gas Co., Jan. 20, posted in Caddo Parish, La., below 29 oil at $0.86, plus 2c differential, to 40 & above at $1.10.

Shell Pet. on Jan. 9, posts same schedule in Black Bayou and White Castle, La. as Magnolia posts in Lockport, which see in above paragraph and in Iowa district, La. posts same schedule as Magnolia in Iowa and Cameron, which also see above.

(Continued on next page)

Directors Approve Merger

NEW YORK—A plan to merge Tide Water Associated Oil Co., Tide Water Oil Co., and Associated Oil Co. into the Tide Water Associated Oil Co. has been approved by the directors of the companies involved. Stockholders of the companies will meet in special session shortly to consider the plan. Tide Water Associated now owns 99.13 per cent of the capital stock of Tide Water Oil and 98.21 per cent of the capital stock of Associated Oil.

While the merger will result in tax savings, consolidation of operations should result in other savings, in greater efficiency in administration, and will give greater flexibility of the capital structure provided for in the merger agreement and facilitate future financing and permit of financing on a more advantageous basis, the announcement said.

The merger agreement provides for the reclassification of Tide Water Associated Oil Co. common stock, at present without par value, into shares of $10 par value. This will effect a savings in the annual franchise tax. There will be no change in the present outstanding preferred stock of Tide Water Associated.

Tide Water Oil Co. common shares not held by Tide Water Associated will be converted into common stock of Tide Water Associated at the rate of three shares of common for each share of Tide Water Oil common. Likewise, Associated Oil Co. common shares not held by Tide Water Associated will be converted at the rate of two and one-quarter shares of such common stock for each share of Associated common stock.

The combined assets of the companies after the merger will be approximately $187,000,000.

Oil Company Bought

MONTGOMERY, Ala.—The Tankar Oil Co., of which M. Hugh Stuart is secretary-treasurer, has purchased the Cooperative Oil Co., owned by Mr. and Mrs. S. F. Clark. The two companies will be merged. With the addition of the Cooperative facilities and the opening of a new filling station at Mexwell Field, the Tankar Oil Co. will have six gasoline dispensing units in the city.

CRUDE OIL MARKETS

(Continued from preceding page)

*Gulf Coastal Fields

Posted by Humble Oil & Refining Co

(Effective Jan. 9, 1936)

Below 18	$0.88	26-26.9	$1.06
18-18.9	0.90	27-27.9	1.08
19-19.9	0.92	28-28.9	1.10
20-20.9	0.94	29-29.9	1.12
21-21.9	0.96	30-30.9	1.14
22-22.9	0.98	31-31.9	1.16
23-23.9	1.00	32-32.9	1.18
24-24.9	1.02	33-33.9	1.20
25-25.9	1.04	34 and above.	1.22

(Effective Nov. 1, 1936)

Refugio heavy $0.95

Effective Dec. 1, 1934, Humble prices are based on 99% tank tables at 60F Allowance or deduction of 1% is made for each 25° change in temperature above or below 60F.

*Includes these fields: Barbers Hill, Goose Creek, Hull, Humble, Liberty, Moss Bluff, Mykawa, Orange, Pierce Junction, Plymouth, Rabbs Ridge, Raccoon Bend (shallow sand), Refugio light, Sour Lake, Spindletop, Sugarland and West Columbia.

Above gravity and crude schedule met Jan. 9 by The Texas Co., except that Texas Co. posts $0.92 for below 20. Jan. 9, Sinclair-Prairie met above Humble schedule in full.

Rocky Mountain Fields

Posted by Stanolind Oil & Gas Co.

(Effective Jan. 9, 1936)

Salt Creek, Midway and Dutton Creek, Wyo., same schedule as Stanolind posts in Oklahoma, Kansas which see.

Greybull-Torchlight	1.28
Iles, light, Col.	1.06
Iles, heavy	1.00
Hogback, N. M.	1.21

(Effective Nov. 4, 1936)

Grass Creek, heavy	$0 62
Frannie light	0 70
Frannie heavy	0.62
Hamilton Dome, Wyo.	0.57

(Effective July 20, 1936)

Elk Basin, light	$1.18
Grass Creek, light	1.18

Pondera, Mont., (Postings discontinued July 1, 1936, but Stanolind pays price posted by Ohio Oil for Kevin-Sunburst, less 20c per bbl.)

Posted by Ohio Oil Co.

(Effective July 20, 1936)

Elk Basin, Wyo.	$1.18
Grass Creek, light	1 18
Rock Creek	$1.085

(Effective Nov. 1, 1936)

Big Muddy	1.11

(Effective June 5, 1936)

Sunburst, Mont.	$1.15

Posted by *International Refg. Co.

(Effective June 5, 1936)

Cut Bank, Mont.

Below 35°	$1.29	38-38.9	$1.37
35-35.9	1.31	39-39.9	1.39
36-36.9	1.33	40 and above.	1.41
37-37.9	1.35		

*Texas Co. subsidiary.

Posted by Continental Oil Co.

(Effective Jan. 9, 1936)

Cat Creek, Mont.	$1.28

CALIFORNIA, Posted by Standard Oil of California

All gravities above those quoted take highest price offered in the field. Prices effective Feb. 26, 1936, except Huntington Beach, Playa del Rey, Santa Fe Springs, Kern Front, Signal Hill (Long Beach) effective March 7, 1936, and Elk Hills, effective June 22, 1936

Gravity	Signal Hill (Long Beach)	Seal Beach	Alamitos Heights	Huntington Beach	Inglewood	Playa del Rey	Olinda Brea Canon	Athens Rosecrans	Dominguez	Torrance	Richfield	Whittier East Coyote (La Habra)	Montebello	West Coyote Hills	Santa Fe Springs	‡Newhall and others	Mountain View	Elk Hills	Buena Vista Hills **Midway-Sunset	Lakeview Area	Lost Hills	Coalinga	Wheeler Ridge
14-14.9	$0.80	0.79	0.74	0.78	0.79	0.80	0.76	....	....	0.80	0.76	0.76	0.77	0.78	....	0.70	....	0.70	0.70	0.65	0.70	0.70	....
15-15.9	.80	.79	.74	.78	.79	.80	.76	....	....	.80	.76	.76	.77	.78	....	.70	....	.70	.70	.65	.70	.70	....
16-16.9	.80	.79	.74	.78	.79	.80	.76	....	....	.80	.76	.76	.77	.78	....	.70	....	.70	.70	.65	.70	.70	....
17-17.9	.80	.79	.74	.78	.81	.80	.76	....	....	.80	.76	.76	.77	.78	....	.70	....	.70	.70	.65	.70	.70	....
18-18.9	.80	.79	.74	.78	.84	.80	.78	....	....	.82	.76	.76	.77	.78	....	.70	....	.70	.70	.65	.70	.70	....
19-19.9	.82	.79	.74	.82	.87	.84	.81	....	....	.85	.76	.78	.77	.78	....	.70	.70	.74	.74	.66	.74	.71	0.70
20-20.9	.85	.79	.74	.85	.90	.88	.84	....	....	.88	.78	.82	.77	.80	....	....	.70	.78	.78	.68	.78	.72	.70
21-21.9	.88	.79	.74	.89	.93	.93	.88	....	....	.91	.80	.85	.77	.84	.78	....	.73	.82	.82	.71	.82	.74	.70
22-22.9	.92	.82	.74	.92	.96	.98	.92	....	....	.93	.84	.89	.79	.88	.78	....	.77	.87	.87	.74	.86	.78	.72
23-23.9	.95	.86	.77	.96	.99	1.02	.96	.84	.79	.96	.88	.93	.82	.92	.78	....	.80	.92	.92	.77	.90	.82	.76
24-24.9	.99	.91	.90	1.00	1.02	1.06	.99	.88	.81	.99	.91	.96	.85	.96	.82	....	.84	.97	.97	.80	.94	.86	.79
25-25.9	1.03	.95	.82	1.03	1.05	1.11	1.03	.93	.83	1.20	.95	....	.89	.99	.86	....	.88	1.01	1.01	.83	.98	.90	.83
26-26.9	1.06	1.00	.85	1.07	1.09	1.16	1.06	.98	.86	1.05	.98	....	.92	1.03	.90	....	.91	1.06	1.06	.86	1.02	....	....
27-27.9	1.10	1.05	.88	1.11	1.12	....	1.10	1.03	.88	....	1.02	....	.96	1.06	.95	....	.95	1.10	1.10	.88	1.06	....	....
28-28.9	1.14	1.10	.90	1.14	1.15	....	1.14	1.07	.90	....	1.06	....	.99	1.10	.99	....	.99	1.15	1.15	.91	1.10	....	....
29-29.9	1.17	1.15	.93	1.18	1.18	....	1.17	1.12	.93	....	1.09	....	1.03	1.14	1.03	....	1.02	1.20	1.20	.94	1.14	....	....
30-30.9	1.21	1.19	.95	1.22	1.21	....	1.21	1.17	.95	....	....	....	1.07	1.17	1.08	....	1.06	1.25	1.25	.97	1.18	....	....
31-31.9					1.24		1.24	1.22	.97	....	....	....	1.11	1.21	1.12	....	1.09	1.29	1.29	.99			
32-32.9	*Elwood Terrace			....	1.27		1.27	1.27	1.00	....	....	....	1.14	1.25	1.16	....	1.13	1.34	1.34	1.02	Kettleman Hills		
33-33.9	....	1.28	....	....	....		....	1.32	....	....	....	....	1.18	1.28	1.20	....	1.17	1.38	1.38	1.04	....	1.19	....
34-34.9	....	1.32	....	....	....		....	1.37	....	....	....	....	1.22	1.32	1.25	....	1.20	....	....	....	....	1.23	....
35-35.9	....	1.35	....	....	....		....	1.42	....	....	....	....	1.25	....	1.29	....	....	....	....	....	....	1.27	....
36-36.9	....	1.39	....	....	....		....	1.46	....	....	....	....	1.29	....	1.33	....	....	....	....	....	....	1.31	....
37-37.9	....	1.43	....	....	....		....	1.51	....	....	....	....	1.32	....	1.37	....	....	....	....	....	....	1.35	....
38-38.9	....	....	....	....	....		....	1.56	....	....	....	....	1.36	....	1.42	....	....	....	....	....	....	1.39	....
39-39.9	....	....	....	....	....		....	1.61	....	....	....	....	1.40	....	....	....	....	....	....	....	....	1.43	....
40-40.9	....	....	....	....	....		....	1.66	....	....	....	....	1.43	....	....	....	....	....	....	....	....	....	....

F.O.B. Standard Pipe Line

*F. o. b. ship.

‡Also McKittrick, Kern River, Kern Front and Round Mountain $0.70 thru 19.9 gravity; no higher gravity quoted. **Except Lakeview Area.

Distinctiveness

•

Dykem Colors
For Gasoline

Dykem Orange GY
(yellowish orange shade)
Dykem Orange Y
(reddish orange shade)
Dykem Orange GR
(deep orange shade)
Dykem Bronze Orange R
(bronze orange shade)
Dykem Amber Y
(amber shade)
Dykem Brilliant Yellow
(sunset golden shade)
Dykem Yellow N
(lemon shade)
Dykem Green GN
(bright emerald shade)
Dykem Green YN
(medium emerald shade)
Dykem Green N
(bluish grass shade)
Dykem Green BN
(deep sea shade)
Dykem Blue
(deep sky shade)
Dykem Violet
(deep violet shade)
Dykem Purple R
(bright purple shade)
Dykem Red B
(bluish rose shade)
Dykem Red
(scarlet shade)
Dykem Brown YR
(walnut brown shade)
Dykem Black B
(deep black shade)

• Since all gasoline looks practically the same until it is dyed a definite color, there is nothing that will make your gasoline more distinctive than giving it a special coloring of its own.

Every motorist sees the gasoline either in the pump globe or in the visigauge. It is only natural then that he is more apt to remember your gasoline because of its distinctive color.

Why not take advantage of the motorist's color consciousness! Add an eye-impelling hue to your gasoline right now and start educating your customers and prospects to insist on your colored gasoline.

Dykem colors can help you accomplish this. They may be had in practically any shade desired.

Write, wire or phone for full particulars.

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NEW PATENTS

Compiled by R. E. Burnham, patent and trade-mark attorney, 511 Eleventh Street, N. W., Washington, D. C., from whom copies may be obtained at the rate of 25c each. State number of patent and name of inventor when ordering.

October 27, 1936

REFINING

Conversion of hydrocarbon oils—Jacque C. Morrell, Chicago, Ill., assignor to Universal Oil Products Co. Filed Mar. 12, 1931. No. 2,058,488.

Process of treating hydrocarbon oils—Justin F. Wait, New York, N. Y. Filed Mar. 29, 1933. No. 2,058,534.

Process of breaking petroleum emulsions—Ivor M. Colbeth, East Orange, N. J., assignor to Baker Castor Oil Co., New York, N. Y. Filed Oct. 8, 1931, and Jan. 14, 1936. Nos. 2,058,568, 2,058,269, and 2,058,270.

Purification of hydrocarbon oils—James A. Reid and Walter A. Schulze, Bartlesville, Okla., assignors to Phillips Petroleum Co. Filed June 17, 1935. No. 2,058,720.

Cracking hydrocarbon oils—Henry J. Broderson, Galveston, Tex., assignor to Standard Oil Co. (Ind.). Filed Oct. 9, 1934. No. 2,058,768.

Destructive hydrogenation of carbonaceous materials—Paul Herold and Hermann Kaufmann, Leuna, Germany, assignors to Standard-I. G. Co. Filed Mar. 7, 1934. No. 2,058,789.

Process of dewaxing mineral oil—Dwight P. Bailey, Bayonne, Robert Beattie, Plainfield, and Walter S. Tyler, Jr., Elizabeth, N. J., assignors to Tide Water Oil Co. Filed Aug. 31, 1932. No. 2,058,944.

Process of desulphurizing light hydrocarbons—Roland B. Bay, Chicago, Ill., assignor to Universal Oil Products Co. Filed Apr. 29, 1931. No. 2,058,958.

Process of sweetening sour hydrocarbon distillate—David L. Yabroff and John W. Givens, Berkeley, Calif., assignors to Shell Development Co. Filed May 18, 1936. No. 2,059,075.

Method for dewaxing hydrocarbon oils—Daniel B. Banks, Upper Darby, Pa., and Paul D. Barton, Scarsdale, N. Y., assignors to Sun Oil Co. Filed June 29, 1934. No. 2,059,166.

MISCELLANEOUS

Proportional odorizer—Edward Rolle; San Francisco, Calif., assignor to Standard Oil Co. (Calif.). Filed Aug. 13, 1934. No. 2,058,508.

Reflection shooting procedure for accurate determination of dip—Ludwig W. Blau, Houston, Tex., assignor to Standard Oil Development Co. Filed June 29, 1935. No. 2,058,764.

Marking petroleum products—Francis X. Colligan, New York, N. Y., assignor to Texas Co. Filed Mar. 31, 1934. No. 2,058,774.

Lubricating compound—Waldersee B. Hendry, Beacon, N. Y., assignor to Texas Co. Filed July 10, 1933. No. 2,058,788.

Waterproofing composition (for cement, concrete, etc.)—Edward B. Peck, Mannheim, Germany, assignor to Standard Oil Development Co. Filed Dec. 27, 1933. No. 2,058,821.

Nozzle for spraying viscous oil—Reginald J. S. Pigott, Pittsburgh, Pa., assignor to Gulf Research & Development Co. Filed June 11, 1935. No. 2,058,823.

Treatment of inhibitors—Vladimir Ipatieff, Chicago, Ill., assiignor to Universal Oil Products Co. Filed Mar. 30, 1933. No. 2,058,881.

Viscous liquid for use in shock-ab-

sorbers—George L. Matheson, Elizabeth, N. J., assignor to Standard Oil Development Co. Filed Dec. 1, 1932. No. 2,058,899.

Bubble-tray and method of assembling—William F. Seelig and Russell C. Wheeler, Hammond, Ind., assignors to Standard Oil Co. (Ind.). Filed Oct. 3, 1932. No. 2,059,044.

ON THE LAZYBENCH

Worries Ended

Mr.: "I've just had my life insured for $5,000."

Mrs.: "That's nice. Now I shan't have to keep telling you to be careful every place you go."

The Pure Oil News
—Pure Oil Co.

—N P N—

Alack Alas!

College Student (writes to dad)—No money. No fun. Your son.

Dad (wires back)—How sad. Too bad. Your dad.

The Pure Oil News
—Pure Oil Co.

—N P N—

Her Model Husband

Relief Agent: They tell me you have a model husband.

Woman: Yes—but he ain't no workin' model.

The Pure Oil News
—Pure Oil Co.

—N P N—

Watches Saying "Tick, Tax"!

Every time your watch ticks, $25.37 is paid in state and federal gasoline taxes!

In the course of a year there are millions of ticks, and also millions of dollars in taxes. It all works out to the point where gasoline taxes cost:

$800,000,000 per year.
$66,666,666.67 per month!
$2,191,780.82 per day!
$91,324.20 per hour!
$1,522.07 per minute!
$25.37 per second!

The Pure Oil News
—Pure Oil Co.

—N P N—

"Give her the gas—go into high,
We're going places, the limit's the sky!"
But he met another on like errand bent,
And nobody knows where either one went.

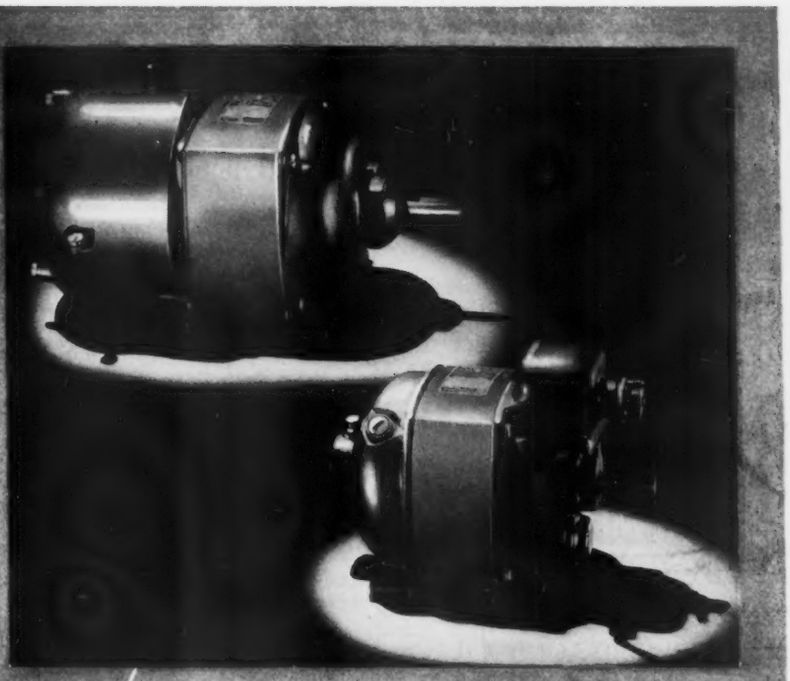
—Oklahoma Oil Marketer,
Oklahoma Oil Marketers Inc.

—N P N—

Customer: "Are those eggs strictly fresh?"

Grocer (to helper): George, are those eggs cool enough to sell?"

—The Oil Can,
Illinois Petroleum Marketers Ass'n.



THE VANISHING POINT!

What do we mean? Just this. Of the approximately half million explosion-resisting motors sold to gasoline pump manufacturers and to major oil companies over a period of fifteen years, less than 4/10 of 1% were ever returned for service. That—if not the actual vanishing point so far as motor ailments go—is, you will agree, the very next thing to it.

Consult Leland next time you are in the market for either dispensing or unloading and transfer motors. The above record entitles these motors to a hearing. Given that, they will do their own talking.

THE LELAND ELECTRIC COMPANY
Dayton, Ohio

Canadian Address Toronto
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LELAND
explosion-resisting
MOTORS

AN ALL-METAL DOOR

Kinnear
ALL-STEEL
Rol-Top

GREATER DURABILITY
added to
RECOGNIZED EFFICIENCY

The convenience and efficiency of an UPWARD-ACTING door is an essential to the modern station. But now, Kinnear has gone a step further. They have added more strength — greater durability. An All-Steel Door! One that will really stand the "gaff" . . . that won't warp, split, pull apart . . . practically indestructible. Yes, and fireproof too! All features that take a further slice off of maintenance costs. And as to appearance, it even better suits the trend in station design. Briefly that's the Kinnear All-Steel RoL-TOP. Little wonder it is so quickly winning universal favor. So let us tell you more about it . . . and how Kinnear Engineers can work with you in adapting it to your individual needs. A call involves no obligation.

OFFICES AND AGENTS IN ALL PRINCIPAL CITIES

Remember Kinnear is a nation-wide organization specializing in UPWARD-ACTING Doors . . . with a type for any of your building's fire or service needs.

THE KINNEAR MFG. CO.
1940-60 Fields Avenue, Columbus, O.

KINNEAR
ROLLING DOORS

INTERESTING TRADE ITEMS

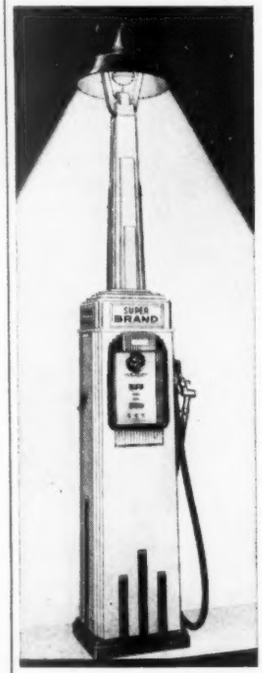
Hypoid Lubricants

With 70 per cent of the 1937 car production using hypoid rear axles, and with a scarcity of information available as to their proper lubrication, the Elco Grease & Oil Co., Cleveland, has announced it will distribute to the service trades its own hypoid lubricant which is being used in factory fills in many of the new hypoid-equipped cars. The name of the lubricant is Elco "28."

Up to this time the entire production of this lubricant was sold direct to car manufacturers for use at the factory and to be shipped to car dealers under the car manufacturer's label. The product will be marketed through jobbers.

* * *

Pump and Floodlight Combined



Combining the gasoline pump and the lighting standard into a single unit known as the Stationliter is the newest development of the Tokheim Oil Tank and Pump Co., Ft. Wayne, Ind.

The Stationliter is a standard model Tokheim pump with a light standard bolted to and extending above the top, and supporting a light bulb and reflector. The overall height is approximately 11 feet. With a 300-watt bulb, the light spread at the base is approximately 60 feet, making it possible to light the entire island from its center, it is said.

The Stationliter is not an accessory to be placed on pumps already installed because adequate facilities for attaching the lighting standard have to be incorporated. It can be any color, blending or contrasting with the pump.

* * *

Control System

A new system, known as the Co-ordinated Control System, is said to make it possible to put even the most intricate scientific process under complete automatic control. The system thus eliminates, according to The Bristol Co., Waterbury, Conn., the necessity of leaving the manipulation and control of critical operations in the hands of plant operatives.

The system is an automatic machine built in the form of a master control station. It consists of recording and controlling instruments built around a so-called "mechanical brain." Each system is designed and engineered for the particular process on which it is used. The instruments are standard instruments selected for their ability to perform a given duty in co-operation with each of the other instruments in the system. Bulletin 460T describes this control system.

* * *

Portable Hoist

A different type of portable electric auto hoist, operating on the geared principle, is announced by Globe Machinery & Supply Co., Des Moines. The super-structure is raised by means of gears fitted to the steel racks at the four corners.

At one corner is a motor driving a compound planetary gear by two V-belts The power is transmitted by two bevel-gear driven wheel shafts rotating in opposite directions. Safety both on up and down strokes is said to be assured by a self locking feature.

* * *

Road Building Machinery

A new plant is being erected for Gar Wood Industries, Inc., in Highland Park, Mich., for building road machinery. The structure, to be completed in November, will be 60 by 1800 feet.

Berrys afford the independent jobber an opportunity to purchase quality material of all descriptions at competitive prices, assuring prompt deliveries and a workable margin.

Our diversified shipping points are your assurance of a definite source at all times.

Your inquiries for kerosene, furnace and fuel oil, as well as gasoline and all kinds of lube oils, will be greatly appreciated.

JAMES B. BERRY SONS' CO., INC. OIL CITY, PA.

Branch Offices: New York City; Chicago, Ill.; Boston, Mass.; Philadelphia, Pa.; London, England; Hamburg, Germany; The Hague, Holland.

Refineries: Oil City, Pa.; Emlenton, Pa.; Farmer's Valley, Pa.; St. Mary's, W. Va.
Ocean Terminals: Baltimore, Md.; Tiverton, R. I.; Dorchester, Mass.; Carteret, N. J.; Edgewater, N. J.; Glastonbury, Conn.; Philadelphia, Pa.

A NEW LUBRICATION MANUAL

A NEW edition of Service Man's Guide completely rewritten in everyday language by J. Howard Pile, nationally recognized lubrication engineer.

Covers the entire automotive lubrication field—explains friction, lubrication fundamentals, characteristics of lubricants—tells lubrication requirements of each and why—describes how cars should be lubricated and gives accepted ways to increase lubrication sales.

No service station man can afford to be without this book. 130 pages of information and inspiration clearly illustrated—mailed postpaid for only $2.

— — — — —Clip and Mail— — — — —

NATIONAL PETROLEUM NEWS
1213 W. 3rd St., Cleveland, O.

● Enclosed is check for $..... Send ..... copies of Service Man's Guide at $2 each.

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(Indiana)

Now motorists in the Middle West can obtain at Esso Stations in St. Louis:

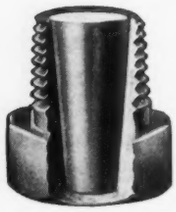
ESSO—for Premium Motor Fuel
ESSOLENE—for Regular Motor Fuel
ESSOLUBE—for Motor Oil
ESSOLEUM—for Greases and lubricants

THE SIGN OF HAPPY MOTORING

For the past several years, motorists in the East and in the South have been familiar with "the ESSO sign". This big red, white and blue ESSO oval has marked the source of fine products and courteous service at more than 30,000 ESSO STATIONS and ESSO DEALERS from Maine to Louisiana.

ESSO INC.

Please Note That the Standard Oil Company (Indiana) HAS NO CONNECTIONS WITH ESSO STATIONS or ESSO Inc.

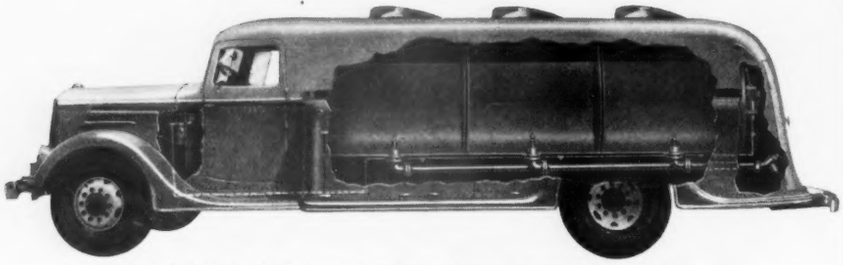


The fusible plugs melt at 165° and release the hydraulic pressure which closes all valves automatically

S&J

Shown at the right above is the unobtrusive little watchman of the S. & J. Hydraulic Internal Valve System. When there is a fire, these fusible plugs melt and release the hydraulic pressure which holds the Internal Safety Valves open while the truck is unloading. With the pressure released, all valves close instantly. There is no further dumping of fuel to feed the flames and add to the conflagration.

Many a time these little fusible plugs have saved a truck driver from fatal burns, often sustained when he makes a frantic effort to close valves manually during a fire. These little fusible plugs do absolutely nothing until there is a fire,—then their action is positive and automatic,—indeed a life saver for the driver, a protector of equipment and load. Write for booklet, "Transporting Inflammable Liquids With Safety."



The S. & J. Hydraulic Internal Valve System shown above includes the only Internal Safety Valves on the market that are approved by the Underwriters Laboratories

SHAND & JURS COMPANY
BERKELEY, CALIFORNIA, U. S. A.

295 Madison Ave. New York | 601 Fannin St. Houston | 225 W. 11th St. Los Angeles

SHAND & JURS

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NAME.....

St.-Box.....City-State.....

Company.....Position.....

Publication of Supply Sources Suspended

COLUMBUS, Nov. 14.—Publication of the "Classified Directory of Marketers of Petroleum Products in Ohio, Showing Refinery Sources of Supply" which was recently taken over by the Ohio Petroleum Marketers Association, has been suspended pending a ruling by the Ohio Tax commission.

A small group of marketers in the state have complained against making public some of the information which has always been part of the directory. The tax commission recently held a hearing on the complaint and the association submitted arguments against withholding that information from the public.

A ruling is expected shortly, but in the meantime, the commission has refused the OPMA access to the information.

Asphalt Floor Tile Standards Delayed

CLEVELAND—Postponement of a project looking toward the establishment of a commercial standard for asphalt floor tile is announced by I. J. Fairchild, chief of the division of Trade Standards, National Bureau of Standards, Washington.

A number of acceptances were received for Standard Commercial TS-2103 but manufacturers have subsequently indicated some diversity of opinion regarding certain requirements and have requested a revision of Federal Specification SS-T-306 so that it would be suitable both as a basis for federal purchases and for marketing this material to the general public.

Presented Service Pin

CHICAGO—A gold pin symbolizing 30 years' service with the Standard Oil Co. of Indiana was awarded Nov. 9 to R. E. Clarke, assistant secretary and assistant treasurer. Mr. Clarke joined the company in 1906 as a stenographer and was auditor of the manufacturing department and general auditor before being promoted to his present position in 1924.

I. J. Shields, manager of the Duluth, Minn., division of the company, and Claude L. Bailey, manager of the Huron, S. D., division, have also received 30-year service pins.

New York Gasoline Sales Up

NEW YORK, Nov. 16.—Sales of gasoline in New York state increased during July and August, 1936, over 1935, but the state's revenue fell off, due to the elimination of 1-cent in the state tax on July 1.

Net taxable consumption this year in July and August was 178,584,277 gallons and 168,618,740 gallons respectively, compared to 157,469,123

gallons and 160,222,647 gallons respectively in 1935.

Net receipts to the state for August, 1936, were $4,950,329 compared to $6,301,584 in August, 1935. Collections in September, 1936, were $5,502,125 as against $6,173,604 in September, 1935, according to State Tax Commissioner Mark Graves.

Roos Returns to Studebaker

SOUTH BEND, Ind., Nov. 16.—Appointment of D. G. Roos as technical advisor of the Studebaker Corp. was announced recently by Paul G. Hoffman, company president. Roos, because of ill health, resigned several months ago as vice-president in charge of engineering, and has been recuperating in the west. He will make his headquarters in South Bend, but will spend much time in Europe and in American automotive centers.

Two More Jobbers Join Wisconsin Dixie

PELLA, Iowa—Two new members of Dixie Distributors of Wisconsin are announced in the current issue of the National Dixie Booster.

Sorensen Sales & Service Co., Gillett, Wis., has a Dixie franchise for Oconto and northeastern Shawano counties. The company is constructing a bulk plant at Gillett.

Skokie Petroleum Co., North Chicago, Ill., has joined Wisconsin Dixie. Through an arrangement with Illinois Dixie Distributors, jobbers in northern Illinois along the Wisconsin border may join the Wisconsin group. Skokie Petroleum operates along Lake Michigan from Evanston, Ill., north to Kenosha, Wis.

Wins First Round Against Rails

WASHINGTON, Nov. 12.—R. L. Smith, Portland, Oreg., will continue to truck petroleum products under contract for Union Oil Co. from Portland to Boise, Idaho, approximately 500 miles, if the Interstate Commerce Commission adopts the recommendation of its examiners.

Smith's application under the motor carrier act was opposed by Union Pacific, Great Northern and Northern Pacific railroads.

Launch Oil Tanker

CHESTER, Pa., Nov. 14.—The 15,000-ton oil tanker Pan-American was launched today at the shipyards of the Sun Shipbuilding Company. The tanker is under construction for the Pan-American Petroleum and Transport Company.

For HIGH SPEED Merchandising

Just as a good motor oil is essential to high speed driving so is a good shipping box a valuable aid to modern merchandising. HINDE & DAUCH corrugated boxes are accurately made . . . custom built to fit their contents. You'll find every H & D shipping box a masterpiece of corrugated construction, made to promote easy handling and speedy distribution. And don't overlook the fine printing that makes each H & D shipping box a master salesman. « « « «

H & D Delivers the Goods

THE HINDE & DAUCH PAPER COMPANY

218 Decatur Street • Sandusky, Ohio

NEW REFINING PATENTS

Carbonization and cracking. No. 2 055 028, issued Sept. 22, 1936; filed May 7, 1930; V. Henny, assignor to Universal Oil Products Co.; one drawing; 4 claims.

PROCESS where the carbonization of coals, lignite, or peat is combined with the cracking operation to produce coke and motor fuel. A vaporous mixture produced in the carbonization process is dephlegmated in a fractionating zone to condense and separate heavier fractions. The lighter vapors are condensed and the condensed heavier fractions, mixed with heavy petroleum oil, are cracked. Resulting vapors are subjected to reflux condensation in a second fractionating zone independently of the vaporous mixture, to condense fractions heavier than the desired low boiling point oils. The resultant reflux condensate is returned to be further cracked. Finally the uncondensed vapors are condensed by reflux condensation to form pressure distillate which is partially introduced into direct contact with the first mentioned vaporous mixture to be dephlegmated. See also No. 2,055,029.

* * *

Polymerization. No. 2 055 085, issued Sept. 22, 1936; filed July 29, 1932; G. W. Miller, assignor to Universal Oil Products Co.; one drawing; 6 claims.

METHOD of handling polymer condensate resulting from the polymerization of cracked oil vapors. The method obviates difficulties formerly encountered in the return of polymer condensate to the cracking system by separating the polymer condensate into light and heavy fractions. The heavy fraction is taken alone or with residual liquid conversion products from the system. The lower boiling fraction, substantially free of coke-forming polymers, is returned for further conversion by supplying them either to the fractionator or direct to the cracking coils.

* * *

Polymerization. No. 2 055 415, issued Sept. 22, 1936; filed Dec. 2, 1933; B. Malishev, assignor to Shell Development Co.; no drawing; 5 claims.

PROCESS of preparing higher-boiling organic substances from low-boiling organic compounds capable of polymerization or condensation by treatment in an anhydrous condition with anhydrous phosphorus pentoxide suspended in a solvent for the organic compounds in the presence of an oxy-organic compound capable of peptizing the suspended phosphorus pentoxide.

The phosphorus pentoxide acts as a catalyst, is not corrosive, does not form objectionable reaction by-products, and its activity can be controlled conveniently.

* * *

Hydrogenation. No. 2 054 776, issued Sept. 15, 1936; filed Aug. 15, 1933; M. Pier, B. Engel, and W. Kroenig, assignors to Standard I. G. Co.; one drawing; 2 claims.

IN A HYDROGENATION process for asphalt-containing materials, the steps of first dispersing a finely divided catalytic material in an oil free from asphalt and which when mixed with the carbonaceous material does not cause flocculation of asphalt but forms a paste containing 10-60 per cent of catalyst. The suspension thus formed is added to the carbonaceous material to be treated, to form a mixture containing 0.05-5.0 per cent of catalyst, and the mixture is hydrogenated.

NOW'S THE TIME!

TO MAKE

Money with CUSHING!

Today in every grade—CUSHING *Thoroughbred* Quality is TOPS! Service that can't be beat—that's CUSHING CANNON BALL Service . . . both—*the combination that spells profits for jobbers.* Now's the time to play a *Thoroughbred—call CUSHING!*

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CANNON BALL SERVICE

Cushing Ethyl Gasoline
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60-62 Under 400 End Point
64-66 Under 375 End Point
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38-40 Light Straw Zero Distillate
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NEW BOOKS

"Black Gold"

Young & Phelps Publications, Chicago, have planned a series of small booklets designed to tell the story of various industries in simple form so that they may be used in the schools as educational material. First of the series deals with oil and is titled "Black Gold."

"Black Gold" is nicely printed and well illustrated but unfortunately contains a great deal of misinformation. Obviously it was not carefully edited by an oil technologist after being written by a layman.

To the writer of this book oil is released from a "pocket in which it lies" by nitro-glycerine. Mixed base crude comes from Kansas and Arkansas. The refinery laboratory consists of "darkened rooms" in which "unseen workers were forever testing the different gasolines to see how hot they had to be to explode." Still cleaners are "those brawny souls whose lives are largely spent in temperatures of 180 degrees or more." "Cracking is making little pieces out of big ones under a 'sledge hammer' of pressure and heat." Cracking is a "chemical reaction." Hot oil enters a cracking still reaction chamber at the top and leaves from the bottom. The four grades of oil are "distilled from the lubricating oil out of the original crude and are handled in almost the same manner as gasoline." Kerosine is used as a lube diluent in wax removal processing. "Dissolved wax" is taken out as the oil passes through cooling coils and filter blankets. In the modern combination unit "the men who man the monster sit in armchairs performing the monotonous, tiring task of watching rows of recording gauges." A tough life, that.

A chart at the end of the book attempting to show the relative volume of various oil products consumed indicates that nearly half as much kerosine as motor fuel is used and that lubricant consumption is a third as large as gasoline, coke a fifth of motor fuel and asphalt a fourth as much as motor fuel. These are strange and wonderful statistics.

The idea behind the series has real merit but publishers of such educational material should consult men in the industry to eliminate silly errors.

Rail Rate Application

WASHINGTON, Nov. 12.—Applications to publish on one day's notice railroad freight rates for a new gasoline plant at Bay's Spur, Kans., were filed today with the Interstate Commerce Commission to destination points on the Rock Island in Texas, Louisiana and Western Trunk Line territory. The new plant will ship from 2 to 4 tank car loads daily, it was said.

STATION ATTENDANTS

must smile. Be sure yours do by backing them up with dependable compressors—QUINCY COMPRESSORS. Automotive-type Features enable these trusty units to deliver: 1. *More air from a given amount of power*, 2. *Trouble-free operation*, 3. *Longer service life.* Write today for interesting literature on QUINCY COMPRESSORS—the ones that will keep your station men in good humor.

Especially designed for service station duty is this 2-stage Quincy. Note fan-type pulley, vertical radiation fins and intercooler, all of which combine to discharge cooler air and reduce power consumption.

QUINCY FEATURES

TIMKEN ROLLER BEARINGS
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LYNITE CONNECTING RODS
●
PERFECT CIRCLE RINGS
●
COPPER INTERCOOLER
●
PATENTED CENTRIFUGAL UNLOADER

QUINCY COMPRESSOR CO., Quincy, Ill.
Branch Offices: New York and Chicago

QUINCY Compressors

"MERCHANDISING of PETROLEUM PRODUCTS"
by R. H. Thomas

Contains practical help for the oil salesman, agent, service station operator and particularly valuable to the man just starting in business.

The book is divided into five parts: 1—Helps for Agents; 2—Service Station Salesmen; 3—Oil Salesman and his Duties; 4—Complaints; 5—Questions and Answers.

It goes into methods of studying possibilities of your territory and making your own canvass of farm machinery on individual farms. How the agent and salesman can coordinate their efforts to develop new business and give the service that holds accounts. How the market for other products than gasoline and motor oil can be worked up. Selling through service stations. Handling of complaints and other marketing problems.

The author has had many years of actual experience in merchandising. His book gives you the benefit of his own experience as a successful marketer.

Send for your copy today. $2.50.

NATIONAL PETROLEUM NEWS, 1213 West Third St., Cleveland, Ohio

TRANSACTIONS IN OIL STOCKS ON NEW YORK STOCK EXCHANGE

1935 High	1935 Low	1936 High	1936 Low	Listed Shares	Par Value	Company	Current Dividend	Last Div. Paid	Transactions Week Ended Nov. 14, 1936 Sales Shares	High	Low	Last	Week's Change
80	48½	125½	75	788,675	N.P.	Amerada Corp.	50cQ	Oct. 31, 36	2,000	106½	100½	100½	— 4½
44	29¾	51½	36	2,290,412	$25	Associated Oil Co.	25c	May 1, 36	150	48	46	46	+ 1
28	20½	35½	26⅝	2,664,901	25	Atlantic Refining Co.	25cQ	Sept. 15, 36	17,400	32½	30⅝	31	— 1½
.....	.....	115	109	.....	.....	do pfd A	....	.....	500	115	113½	113½	— ½
14¾	5⅞	20⅝	14⅛	2,131,090	5	Barnsdall Corp.	20c	Nov. 2, 36	56,000	*20⅝	19¼	19⅝	0
9⅞	6¾	30	8¼	1,444,970	N.P.	Colonial Beacon Oil Co.	....	.....	.....	.....	.....	.....	.....
12¼	6½	15¼	11⅛	13,983,287	N.P.	Consolidated Oil Corp.	40c	Nov. 16, 36	42,500	14⅜	13¼	13⅜	— ⅛
112⅛	108½	106½	101	132,771	$100	do pfd.	$1.25Q	Sept. 1, 36	100	105⅞	105⅞	105⅞	+ ⅜
35	15⅛	39	28½	4,682,662	5	Continental Oil Co.	50c	Oct. 31, 36	33,700	38⅞	36	36⅛	— 2⅜
22⅛	11¾	34¾	21¼	413,333	$10	General Asphalt Co.	....	.....	.....	.....	.....	.....	.....
7	1½	12¼	6⅛	1,098,618	25	Houston Oil Co. v.t.c.	....	.....	30,100	10¼	9½	10	— ½
5¼	2⅛	15⅛	4½	1,207,132	10	Indian Refining Co.	....	.....	5,500	*15⅛	13¼	13½	— ½
1⅞	⅛	.....	.....	1,309,060	N.P	Louisiana Oil Ref'g. Corp.	....	.....	.....	.....	.....	.....	.....
15	4½	51½	13	40,000	$100	do pfd.	....	.....	140	37½	36¾	37	0
3	1	6⅝	2¼	330,000	N.P.	Maracaibo Oil Exploration Co.	....	.....	2,700	4	3¾	3¾	— ¼
20⅛	9½	30⅞	17¼	1,855,912	$10	Mid-Continent Pet. Corp.	40c	June 1, 36	11,400	30¼	27½	27½	— 3⅛
17⅜	10⅛	26¼	16¾	1,399,345	N.P.	Mission Corp.	....	.....	1,700	23¼	21½	21⅝	— 2⅜
14¼	9¼	17½	12¼	6,563,377	N.P.	Ohio Oil Co.	25c	June 15, 36	35,400	15	13¾	13⅞	— ⅝
21	10¾	20⅜	12¼	4,699,885	$5	Pan Amer. Pet. & Transp. Co.	....	.....	300	13	12⅝	12⅝	— ⅜
1⅞	½	4¼	1⅛	199,370	N.P.	Panhandle Prod. & Ref'g. Co.	....	.....	900	2⅝	2	2	— ⅛
20	6½	74⅛	18½	17,994	$100	do pfd.	....	.....	50	57½	54	54	— 3½
14	7⅝	18	12⅝	2,153,444	5	Petroleum Corp. of America	25c	Sept. 30, 36	3,300	16¼	15	15	— 1¼
40	13¾	49⅛	38¼	4,152,836	N.P.	Phillips Petroleum Co.	25cQC	Sept. 1, 36	29,600	48⅛	43⅝	44½	— 2¾
1¼	¼	2¼	⅞	1,184,817	$25	Pierce Oil Corp.	....	.....	.....	.....	.....	.....	.....
8	2¾	17	8	150,000	100	do pfd.	....	.....	1,700	13½	12	12	— 1¼
1¾	⅝	2½	1½	2,500,000	N.P.	Pierce Petroleum Corp.	....	.....	7,700	2⅜	2⅛	2⅛	— ¼
13	6½	18⅞	11⅞	1,050,000	$5	Plymouth Oil	25cQ	Sept. 30, 36	15,100	*18⅞	17⅝	18½	+ ⅞
17	5⅞	24⅞	16¼	3,038,370	N.P.	Pure Oil Co.	....	.....	40,600	20	18	18⅜	— 1⅝
103	34¾	118	91¼	167,640	100	do 6% pfd.	$1.50	Oct. 1, 36	800	99	98	98	— 1
119⅞	49⅝	133½	103	130,000	100	do 8% pfd.	$2.00	Oct. 1, 36	200	111	110	110¼	+ ½
48⅛	29½	57⅝	48⅝	425,342	a	Royal Dutch Co. (N. Y. shares)	$1.70	Aug. 1, 35	.....	.....	.....	.....	.....
36⅞	20¾	42½	30½	1,244,383	N.P.	Seaboard Oil of Del.	25c	Sept. 15, 36	18,500	36½	34¼	34¾	+ ⅜
39	20⅜	48	38½	56,148	£2	Shell Transport & Trading Co.	$1.237	July 24, 35	.....	.....	.....	.....	.....
16⅛	5⅛	28	14⅝	13,070,625	N.P.	Shell Union Oil Corp.	....	.....	16,800	27⅜	24⅝	25½	— 2¼
111	63½	127½	110½	400,000	$100	do pfd. w.w.	$1.37½	Oct. 1, 36	2,100	*127½	125	125	— 1¼
18¾	4⅜	6⅜	3½	461,000	10	Simms Petroleum Co.	**$1.00	July 31, 36	800	4⅛	3⅞	3⅞	— ⅛
20½	6½	37¼	19½	1,008,549	15	Skelly Oil Co.	....	.....	5,500	37	35	35¼	— 1½
116¼	60	132	116	120,000	100	do pfd.	$1.50	Nov. 2, 36	1,400	124	121	123½	+ 2½
15¾	10⅝	17½	12½	31,151,075	15	Socony Vacuum Oil Co.	25c	Sept. 15, 36	75,500	17¼	16	16	— 1⅛
116	111	113½	109‡‡	764,925	100	S. O. Export Corp. pfd.	$2.50 S.A.	June 30, 36	.....	.....	.....	.....	.....
41½	27¾	47⅝	35	13,014,754	N.P.	S. O. California	30c	Sept. 15, 36	31,500	42	39¾	40	— 1⅛
33⅜	23	45¼	32¾	15,215,677	$25	S. O. Indiana	50c	Sept. 15, 36	34,100	*45¼	43¼	43⅜	+ ⅝
32	20	30¾	25	145,441	10	S. O. Kansas	....	.....	200	30	29⅞	29⅞	— ⅛
52⅜	35⅜	70⅛	51⅛	26,200,825	25	S. O. New Jersey	75c	June 15, 36	34,700	68⅜	64⅞	65⅛	— 1¼
77	60⅛	91	72	2,019,093	N.P.	Sun Oil Co.	25cQ	Sept. 15, 36	700	80	79	79½	— ½
121	115½	124	118	100,000	$100	do pfd.	$1.50Q	Sept. 1, 36	160	122½	120½	122½	+ 1½
3½	1⅝	6¾	3	966,979	$1	Superior Oil Corp. (Del.)	....	.....	10,400	4⅝	4	4	— ⅜
30¼	16½	50⅜	28⅞	9,851,236	$25	The Texas Corp.	50c	Oct. 1, 36	36,400	50⅜	48½	49¾	— ⅜
9¼	3¼	15¼	7⅛	930,570	10	Texas Pacific Coal & Oil Co.	25c	Aug. 1, 36	16,500	13⅝	12⅛	12⅜	— 1¼
15⅞	7⅜	21	14⅜	5,998,919	N.P.	Tide Water Associated Oil Co.	15c	Sept. 1, 36	24,300	*21	19⅛	19⅛	— 1½
104½	84	106½	100⅝	695,503	$100	do pfd. C. T. V.	$1.50	Oct. 1, 36	600	105	104½	104⅞	+ ⅜
48	26¾	60	51	2,191,823	N.P.	Tide Water Oil Co.	45c	Aug. 31, 36	.....	.....	.....	.....	.....
24	14¾	28⅛	20¾	4,386,070	25	Union Oil of California	25cQ	Nov. 10, 36	6,700	24¼	23¼	23¼	— ⅝
26½	20¼	31⅝	22⅝	1,200,000	N.P.	Union Tank Car Co.	30cQ	Sept. 1, 36	1,800	29¼	28¾	28¾	— ⅛
1⅝	⅝	2⅞	⅝	759,538	N.P.	Warner Quinlan Co.	....	.....	3,500	1½	1¼	1¼	0
3⅛	1	5¼	2¾	431,443	$5	H. F. Wilcox Oil & Gas Co.	....	.....	1,000	3½	3¼	3¼	— ¼

*New high. †New low. Ex-div. **Dividends of liquidation. ‡Stock dividend. a Par 33 1/3 florins.
C Paid 25c extra Sept. 1, 36.

STANDARD OIL STOCKS ON NEW YORK CURB MARKET

1935 High	1935 Low	1936 High	1936 Low	Listed Shares	Par Value	Company	Current Dividend	Last Div. Paid	Transactions Week Ended Nov. 14, 1936 Sales Shares	High	Low	Last	Week's Change
16	6	18	12¼	36,000	$25	Borne Scrymser Co.	75c	Oct. 15, 36	.....	....	....	....	.....
42½	30½	50	39¾	200,000	50	Buckeye Pipe Line Co.	75cQ	Sept. 15, 36	450	48	47	48	+ 1¼
157	115	124¾	108⅞	120,000	25	Chesebrough Mfg. Co.	$1.50	Sept. 30, 36	.....	....	....	....	.....
23¾	10	34¾	19⅞	6,974,356	$5	Creole Petroleum Co.	25c	July 15, 36	27,000	31	28¾	29½	+ ⅞
38	33¼	47	39	50,000	$50	Eureka Pipe Line Co.	$1Q	Nov. 2, 36	200	46½	44¾	46½	— ½
64	44	76½	57	8,985,662	N.P.	Humble Oil & Refg. Co.	50cQ	Oct. 1, 36	8,400	72	69¼	70¼	— ⅝
22½	15⅝	24½	20	26,965,078	N.P.	Imperial Oil Ltd.	°25cS.	June 1, 36	10,000	23⅝	23	23⅛	+ ⅛
22½	15⅞	24⅜	20⅛	.....	N.P.	do registered	25cQ	June 1, 36	700	23½	23⅛	23⅜	+ ⅜
6½	3⅜	9¾	5½	300,000	$10	Indiana Pipe Line Co.	40c	Nov. 14, 36	600	8	7¾	8	+ ¼
39¾	28	39⅛	32⅞	14,324,088	N.P.	International Pet. Co.	°75cS.	June 1, 36	7,400	37¾	36⅜	37¼	+ ⅞
.....	.....	36½	33⅜	.....	.....	do registered	....	.....	.....	.....	.....	.....	.....
10⅜	6¾	15⅜	9¼	509,000	$12.50	National Transit Co.	40c	June 15, 36	700	11½	11¼	11¼	— ½
4⅞	3	6¼	4¼	100,000	5	New York Transit Co.	15c S.A.	Apr. 15, 36	600	5	5	5	.....
8	5¼	9¼	4⅞	120,000	10	Northern Pipe Line Co.	15c	July 1, 36	900	9⅛	8½	9⅛	+ ½
107¼	90¼	110⅜	104¼	562,122	100	Ohio Oil Co. pfd.	$1.50Q	Sept. 15, 36	400	109⅞	109¼	109⅞	+ ½
11	5½	8	5½	400,000	25	Penn Mex. Fuel Co.	....	Dec. 22, 33	200	7	6⅝	7	+ ¼
34½	21⅝	41¼	32½	1,142,671	25	South Penn Oil Co.	60c	Sept. 30, 36	2,300	*41¼	40½	41	+ ½
5	3⅞	7⅞	3⅞	100,000	10	Southern Pipe Line Co.	10c	Sept. 1, 36	400	4¼	4¼	4¼	0
56	45¼	60	45	35,000	50	South West Pa. Pipe Lines	$1.00	Oct. 1, 36	50	49	49	49	+ 1
24	18	23¾	17⅛	2,604,801	10	S. O. Kentucky	35c	Sept. 15, 36	8,300	21⅞	21	21⅜	+ ⅜
12	7¾	14⅜	11	182,803	25	S. O. Nebraska	....	June 20, 34	400	12⅜	12⅛	12⅛	— ¼
23⅜	11½	40	21¾	753,740	25	S. O. Ohio	25c	Oct. 15, 36	2,100	39	37⅞	38	— ⅞
99½	89	107½	97	120,000	100	do 5% pfd.	$1.25Q	Oct. 15, 36	50	105½	105½	105½	+ ½
6	2¼	10	5⅜	34,158	25	Swan Finch Oil Corp.	87½c	Mar. 16, 36	.....	....	....	....	.....

*New high. †New low. °Imperial Oil Spec. 37½c June 1, 36. Internationa Pet. Spec. 50c June 1, 36
x Ex dividend.

Accessory Line Larger

CLEVELAND, Nov. 16.—The growing importance of the service station as an outlet for automobile accessory items is indicated by the action of the standard Oil Co. of Ohio's newly formed accessory sales department.

The number of items available at Sohio stations has been expanded to include automobile radios, heaters, fans, defrosters, and seat covers. These items, in addition to the regular accessory line, are available at all Sohio Servicenters and larger dealer outlets.

NEW YORK CURB BONDS

Week Ending Nov. 14

	High	Low	Last	Change
Cities Serv. 5s '66	73¼	69	69	— ¼
Cities Serv. 5s '50	73⅛	68⅛	68⅞	— 1⅛
Cities Serv. G. 5½s '42	102½	102¼	102½	0
Empire O & R 5½s '42	90¼	89½	89½	— ¼

OIL AND ROYALTY STOCKS ON NEW YORK CURB

1935 High	1935 Low	1936 High	1936 Low	Par Value	Company	Transactions Week Ended Nov. 14, 1936 Sales Shares	High	Low	Last	Week's Change
½	⅜	1⅞	¾	N.P.	American Maracaibo	10,200	1	⅞	⅞	— 1/8
3⅛	⅛	7⅛	3¼	N.P.	Arkansas Nat. Gas	4,900	5¾	5¼	5¼	— ¼
3⅝	⅛	7¾	3¼	N.P.	do A	13,700	5⅞	5¼	5¼	— ½
7⅛	2¼	10¼	7⅛	$10	do pfd	1,100	9⅝	9½	9½	— ⅛
16¾	14½	32¾	16½	N.P.	British Amer. Oil coup.	1,500	23½	22¾	23½	+ ½
....	....	26¼	21⅝	N.P.	do registered	.....	....	....	....	....
4¼	1⅜	4⅞	2	$¼	Carib Syndicate	9,600	2¼	2⅛	2¼	0
3¼	¾	7⅛	3	N.P.	Cities Service	67,400	4	3½	3½	— ½
67¼	6¼	66	41½	$100	do pfd	2,700	48½	44½	44½	— 5½
4⅜	⅛	6½	3¾	10	do pfd. B	900	4¾	4½	4½	— ⅛
63	6	63	40	100	do pfd. BB	70	41	†40	40	— 5
2⅛	½	4	⅝	N.P.	Colon Oil Corp.	.....	....	....	....	....
1½	⅛	6¼	¾	N.P.	Columbia Oil & Gas vtc.	68,700	6½	5½	5⅝	— ⅝
3	1	5	2	$1	Consolidated Royalty	1,600	3	2⅞	2⅞	— ⅛
1⅛	¼	4⅛	1⅛	N.P.	Cosden Oil	5,200	3	2¾	2⅞	— ⅛
6¼	¾	27½	6½	$100	do pfd	1,500	24⅜	22	24	— ½
2⅛	⅝	2¾	1¾	N.P.	Crown Central Pet.	24,000	2	1¾	2	+ ⅛
8⅛	4	15¼	9	N.P.	Darby Petroleum	2,800	15¼	14⅜	14½	+ ⅛
2	¾	6¾	1⅞	N.P.	Derby Oil & Refg.	1,000	6	5	5	— 1
20	20	81	25½	N.P.	do pfd	125	80	79	80	0
74¾	50¼	117	72	$25	Gulf Oil Corp.	12,100	115	103	103½	— 11½
4¼	1⅜	6¼	2⅝	N.P.	Indian Ter. Illg. Oil A	300	3⅜	3¼	3⅜	+ ⅛
4¼	1⅛	6½	3	N.P.	do B	1,400	3⅜	3⅛	3⅜	+ ¼
3	1⅞	5⅝	2⅝	N.P.	Kirby Petroleum	2,000	4½	4⅛	4⅛	— ⅜
¾	¼	2	½	$25	Leonard Oil Dev.	7,600	1	⅞	1/16	+ 1/16
8¼	3½	15½	7⅜	N.P.	Lion Oil Refg.	4,300	14¾	14	14	— ½
10⅞	4½	14¼	9⅞	N.P.	Lone Star Gas	4,500	12⅝	12	12	— ¾
19	4	22¼	13¾	N.P.	Margay Oil Co.	100	15	15	15	— 2
2⅝	⅞	4⅛	1⅛	N.P.	Mexico-Ohio Oil	1,300	2	1¾	1⅞	+ 1/16
3⅜	1⅞	4¾	1⅞	N.P.	Michigan Gas & Oil	600	2⅝	2½	2½	— ¼
3⅞	⅞	6	3	N.P.	Mid. States Pet. A vtc.	3,900	5⅜	4⅞	4⅞	— ½
⅛	¼	2⅝	⅛	N.P.	do B vtc.	1,700	1½	1¼	1⅜	— ¼
⅛	¼	⅛	¼	$1	Mountain & Gulf	.....	....	....	....	....
5¾	4⅛	8⅜	5	10	Mountain Producers	6,000	5⅞	5¼	5⅞	+ ⅝
20	11¾	23	17⅝	N.P.	National Fuel Gas	3,100	19⅝	18⅜	18⅞	— 1⅛
3¼	2	4½	2⅞	$5	New Bradford Oil	2,100	3¾	3⅜	3½	— ⅛
4	2	8⅜	3⅝	N.P.	North Central Texas	500	6	5¾	6	+ ½
⅛	⅛	⅛	1/16	N.P.	North European	29,800	1/16	1/16	1/16	+ 1/16
12¾	9⅜	15¼	13½	N.P.	Oil Stocks Ltd. A	100	15¼	15¼	15¼	+ ¼
4⅜	1¼	6⅝	3¼	N.P.	Pantepec of Venezuela	72,600	6⅛	5¾	6⅛	+ ¼
⅜	⅛	1	⅛	N.P.	Producers Royalty	5,600	⅜	¼	¼	0
3¾	⅛	15½	3	N.P.	Red Bank Oil	3,900	11½	10½	11¼	+ ½
½	⅛	1½	⅛	N.P.	Reiter-Foster Oil	800	⅝	⅝	⅝	— ⅛
2⅞	½	2¾	¼	$25	Richfield Oil pfd	.....	....	....	....	....
5	1½	19¼	4½	$1	Root Petroleum	3,300	15⅜	14¾	14¾	— ¼
15⅛	8	23	14½	20	do conv. pr. pfd	100	18½	18½	18½	0
....	....	39	26¾	$10	Royalty Corp. pfd	.....	....	....	....	....
2⅛	⅜	4¾	1⅞	N.P.	Ryan Consolidated	600	3¼	3¼	3¼	0
1	⅛	2⅛	½	$10	Salt Creek Consolidated	.....	....	....	....	....
7⅛	5⅛	10	5¾	10	Salt Creek Prod.	.....	....	....	....	....
6⅞	4¾	11¼	6¼	N.P.	Southland Royalty	1,500	8⅜	7⅞	8⅜	+ ⅛
2⅞	⅞	5	2⅜	$5	Sunray Oil	6,200	3¼	3⅜	3½	+ 1/16
....	....	49	47½	..	do pfd	.....	....	....	....	....
4	2	6⅞	4¼	$1	Swiss Oil Corp.	.....	....	....	....	....
6⅞	5	9¾	4½	N.P.	Texon Oil & Land	2,700	6¼	5⅞	6	— ¼
....	....	7	2⅜	....	Venezuela Mex.	100	5½	5½	5½	0
2¼	⅛	3½	1¼	$1	Venezuela Petroleum	3,400	1½	1⅜	1⅜	— 1/8
6⅛	3½	11	5⅝	$1	Woodley Petroleum	1,200	8¾	8⅝	8¾	— ⅜

*New high. †New low.

OIL DIVIDENDS

Dividends Waiting Payment

Company	Amount		Payable
Atlantic Refg. q	25c	Nov. 20	Dec. 15
do Sp.	25c	Nov. 20	Dec. 15
Buckeye Pipe Line Co.**	$1.00	Nov. 20	Dec. 15
Cons. Oil $5 pfd. q	$1.25	Nov. 16	Dec. 1
Derby Oil & Rfg. $4 pfd.	$4.00	Nov. 30	Dec. 15
Gulf Oil Corp.	25c	Nov. 20	Dec. 10
do Sp.	25c	Nov. 20	Dec. 10
McColl Frontenac Oil q.	20c	Nov. 14	Dec. 15
Mid-Cont. Pet. Corp.*	75c	Nov. 2	Dec. 1
Ohio Oil	35c	Nov. 14	Dec. 15
do pfd. q	$1.50	Nov. 14	Dec. 15
Phillips Pet. b	$1.00	Nov. 16	Dec. 1
Seaboard Oil q	25c	Dec. 1	Dec. 15
Socony-Vacuum Oil sp.	25c	Nov. 18	Dec. 15
Stand. of Calif. q	25c	Nov. 16	Dec. 15
do extra	5c	Nov. 16	Dec. 15
Stand. of Ind. q	25c	Nov. 16	Dec. 15
do extra	$1.00	Nov 16	Dec. 15
Stand. of N. J. semi	50c	Nov. 16	Dec. 15
do extra	75c	Nov. 16	Dec. 15
Sun Oil Co. stock	6%	Nov. 25	Dec. 15
do q	25c	Nov. 25	Dec. 15
do pfd. q	$1.50	Nov. 11	Dec. 1
Tide Water Assoc.	15c	Nov. 10	Dec. 1

*Paid 40c June 1, 36.
**Paid 75c quarterly previously.
b Unclassified.

CLEVELAND STOCK EXCHANGE

Transactions Week Ended Nov. 14, 1936

	Sales	High	Low	Last	Change Over Week
Canfield Oil	....	....	....	....	....
do pfd	....	....	....	....	....
Nat'l Refining	565	8½	8	8	0
do pfd	127	107½	105	107⅜	+3⅜

PITTSBURGH STOCK EXCHANGE

Transactions Week Ended Nov. 13, 1936 (5 days)

	Sales	High	Low	Last	Change Over Week
Ark. Nat. Gas	170	5½	5¼	5½	0
do pfd	93	9¼	9¼	9¼	— ¼
†Cities Serv	496	4	3⅜	3½	— ⅝
Col. Gas & Elec.	1,070	18½	17⅜	17⅞	— ¾
†Col. Oil & Gaso.	245	6⅜	5½	5½	+ ⅛
Devonian Oil	320	18⅞	18¾	18⅞	+ ¼
Lone Star Gas	4,660	12⅝	12	12⅛	— ⅜
† do 6½ p.c. pfd.	27	111⅞	111⅞	111⅞	—3⅛
x Mountain Fuel Supply	4,451	6	5½	5½	— ⅜
Plymouth Oil	185	18⅝	17¾	18⅝	+1¼
Shamrock Oil & Gas	8,660	6¾	6¼	6⅜	— ¼
do pfd	686	14½	12½	12½	—1½
†xStandard Oil of N. J.	499	68⅛	65½	65½	—1¾

†Unlisted. xEx dividend.

NEW YORK BONDS

Week Ended Nov. 14

	High	Low	Last	Change
Atlantic Refg. deb. 5s	103	102⅞	102⅞	— ⅛
Houston Oil 5½s '40	102½	102	102¼	— ¼
Pan Amer. Pet. of Calif. 6s	42¾	40⅛	41½	+ ½
do 6s ctfs.	41⅝	39⅞	40	—1
Pure Oil 4¼s '50 w.w.	119¼	115	115½	—3¼
do x.w.	105⅛	104⅝	104⅝	+ ⅛
Richfield Oil of Calif. 6s	45⅞	43¾	43¾	— ⅞
do 6s ctfs.	45	43⅛	43⅛	—1⅜
Shell Union Oil 3½s '51	101⅛	100⅛	100½	— ¼
Skelly Oil 4s	102⅞	102⅛	102½	0
Socony-Vacuum 3½s '50	106¼	106	106¼	+ ½
S. O. N. J. 5½s	100½	100	100⅜	+ ⅜
Union Oil of Calif. 6s A	121¼	121¼	121¼	0
do 4s	117⅛	116¾	117	0
Warner-Quinlan 6s	43	42⅜	42¾	— ¾

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Earnings of Oil Companies Now At Highest Level Since 1929

THE marked improvement in oil company earnings in the first nine months of 1936 and the favorable outlook for the final quarter indicate that profits of the industry this year will probably be the best for any year since 1929 and in some cases the best on record. Of equal importance to stockholders is the fact that they will have participated in the betterment, through increased dividend distributions, to a greater extent than at any time since the recovery began.

Sixteen leading oil companies to report earnings for the first nine months of 1936 and for which comparable 1935 figures are available showed aggregate net income of $94,059,650, or approximately 64% above the $57,487,798 reported by these same companies in the corresponding period of 1935, according to data compiled by Carl H. Pforzheimer & Co.

Improvement was general, with each member of the group showing an increase over last year. Six companies—Atlantic Refining, Barnsdall, Mid-Continent Petroleum, Plymouth Oil, Shell Union and Skelly—more than doubled last year's rate of earnings, while Texas Pacific Coal & Oil converted a deficit in the first nine months of 1935 into a profit this year. Substantial increases over last year were also reported by Continental Oil, Phillips Petroleum and Seaboard Oil. Although comparable figures are not available for Texas Corp. its estimated earnings of $28,000,000 for the nine months ended Sept. 30, 1936 compare with net income of $17,065,037 in the full year 1935.

Besides these companies that have issued earnings statements for the first nine months, five companies have either estimated or reported net income for the first half of the year and in each case earnings were also higher than in the same period of last year. Chief among these were Standard Oil Co. of Indiana with net income of $22,015,537 in the first half of 1936, compared with $13,191,166 in the first six months of 1935 and Socony-Vacuum with estimated earnings of $20,000,000 as against $4,500,000 in the initial half of last year.

The accompanying tabulation showing 1935 and 1936 interim earnings and per common share equivalents also shows per share dividends paid or declared to date in 1936, and for all of 1935. Of the 22 companies listed, 17 have paid or declared larger dividends to date this year than in all of 1935.

Although the generally increased dividend payments principally reflect the sharply higher earnings and sound financial condition of most major oil companies, the new tax on undistributed profits has been an important factor in determining dividend policy this year. However, it appears that most oil companies, particularly those with substantial producing interests, will not be affected by this provision of the Revenue Act of 1936 to the same degree as other industrial corporations. This, because of the disparity that often exists between the statutory income, upon which corporate income taxes are based, and the amount of earnings reported to stockholders.

Among the companies that have recently declared year-end or special distributions are Standard Oil Co. of New Jersey, Standard Oil Co. of Indiana, Socony-Vacuum Oil Co., Phillips Petroleum Co. and Atlantic Refining Co.

Standard of New Jersey declared an extra dividend of 75 cents a share in addition to the regular semi-annual dividend of 50 cents a share, bringing total payments this year to $2 per share as compared with $1.25 per share in 1935. However, last year a dividend in stock of Mission Corp was also paid.

Standard of Indiana has declared an extra dividend of $1 per share in addition to the regular quarterly dividend of 25 cents per share, which together with previous payments this year will bring total dividends for 1936 to $2.40 per share as against only $1 a share in 1935.

Socony-Vacuum's recent declara-

Oil Company Earnings and Dividends in First Nine Months of 1936 Compared with 1935

(Compilation courtesy Carl H. Pforzheimer & Co.)

	Net Income First 9 Months		Per Share Earnings First 9 Months		Dividends Per Share Paid or Declared in	Paid in
	1936	1935	1936	1935	†1936	1935
Amerada Corp.	$1,405,632	$1,259,214	$1.78	$1.60	$2.00	$2.00
Atlantic Refining Co.	6,161,200	1,880,500	2.20	0.71	1.25	1.00
Barnsdall Oil Co.	1,719,584	195,518	0.81	0.09	0.89	0.20
Continental Oil Co.	(a)8,083,624	5,568,802	1.72	1.19	1.25	0.62½
Mid-Continent Pet Corp.	4,198,678	1,450,892	2.28	0.78	1.15	0.40
Ohio Oil Co.	6,212,981	3,951,985	0.57	0.22	0.60	0.30
Phillips Petroleum Co.	12,834,905	9,850,427	3.08	2.37	2.50	1.25
Plymouth Oil Co.	1,266,199	537,242	1.21	0.51	0.50	0.25
Seaboard Oil Co....	1,837,276	1,222,652	1.48	0.98	1.00	1.00
Shell Union Oil Co.	(b)16,512,053	4,411,649	1.14	0.21	**	.....
Skelly Oil Co.	3,511,431	1,575,054	3.19	1.26	**	.....
S. O. California.....	16,665,074	15,759,001	1.28	1.21	1.20	1.00
S. O. Kansas.....	179,527	39,657	1.23	0.27	.....	.....
Texas Corp.	28,000,000	.....	3.00	.....	1.25	1.00
Texas Pacific Coal & Oil	466,553	(d)44,032	0.53	(d)0.05	0.25	.....
Tide Water Associated	8,504,933	5,829,237	0.99	0.53	0.70	.....
Union Oil of California	4,400,000	4,000,000	1.00	0.91	1.00	1.00
First 6 months						
Consolidated Oil Corp.	7,029,374	.....	0.49	.....	0.80	0.25
Socony-Vacuum ....(c)	20,000,000	(c)4,500,000	0.64	0.14	0.70	0.30
South Penn Oil Co.	1,489,555	982,335	1.30	0.86	1.70	1.35
S. O. Indiana.....	22,015,537	13,191,166	1.45	0.87	2.40	1.00
Sun Oil Co.	3,474,811	3,157,863	1.57	1.52	*1.00	‡1.00

*Plus 6% in stock. ‡Plus 7% in stock. †To date.

**Payments on account of preferred accumulations have been made in 1936.

(a) Includes profits of $1,315,260 on sale of certain properties.

(b) Includes profits of $2,909,807 from sale of investment in affiliated company.

(c) Approximately $3,000,000 of 1936 first half earnings results from capitalizing intangible development costs instead of charging them to expense as was done in first half of 1935 when some $3,200,000 was deducted for this purpose.

(d) Deficit or loss.

tion of a special dividend of 25 cents per share together with the semi-annual dividends of 20 cents and 25 cents a share in March and September, respectively, brings total disbursements to 70 cents a share this year, against only 30 cents a share in 1935.

Phillips Petroleum declared a year-end dividend of $1 per share. In the preceding three quarters quarterly dividends of 25 cents a share and extras of 25 cents a share were paid. Total payments of $2.50 per share for 1936 by this company will compare with $1.25 a share last year.

For the final quarter this year Atlantic Refining has declared an extra dividend of 25 cents per share in addition to the regular quarterly dividend of 25 cents per share compared with only the regular payment in preceding quarters.

Among other companies that have paid or declared more to date this year than in all of 1935 are: Barnsdall, 80 cents a share against 20 cents; Continental, $1.25 against 62½ cents; Mid-Continent Petroleum, $1.15 against 40 cents; Ohio Oil, 60 cents compared with 30 cents; Standard of California, $1.20 against $1; Texas Corp., $1.25 against $1; Consolidated Oil, 80 cents against 25 cents and South Penn, $1.70 against $1.35; while Tide Water Associated which resumed payments on its common stock in January this year, after a lapse since 1931, has paid 70 cents a share to date this year. Although Shell Union and Skelly Oil have paid no dividends on their common stocks this year, they have made distributions on account of preferred arrears totalling $2.75 and $7.50 per share, respectively.

Ohio Oil

Ohio Oil Co.'s earnings in the first nine months were almost 60 per cent higher than in the same period in 1935, according to the company's statement. For the first nine months this year net profit was $6,212,981, after all charges, equal after preferred dividend requirements to 57 cents a share on 6,563,377 no-par shares of common stock. In the same period of 1935 the company earned $3,951,985 or 22 cents a share on the common.

Consolidation Completed

The proposed consolidation of the Swiss Oil Corp. and Ashland Refining Co. has received stockholders' approval and became effective Oct. 31, 1936, Paul G. Blazer, president announced. The name of the new company is Ashland Oil & Refining Co.

At the same time, Mr. Blazer announced that consolidated net earnings of the Swiss Oil Corp. and subsidiary companies for the three months ended Sept. 30 were $269,096. Of this $243,669, or 25 cents a share, was available to the stockholders of Swiss, after provision for minority interests in subsidiary companies and dividends and redemption premium on Ashland Refining Co. 8 per cent preferred stock.

Consolidated net earnings for nine months of 1936 were $620,984, of which $568,012, or 59 cents a share, was available to Swiss stockholders after the same deductions. Both figures are subject to year end audit.

Standard of Kansas

Standard Oil Co. of Kansas, and its subsidiary Coastal Plains Oil Corp. earned $179,527, after all charges, equal to $1.27 a share on 145,441 shares (par $10) of capital stock. This compares with net of $39,657, or 27 cents a share, in the same period of 1935.

New Westland Manager

MINOT, N. D.—Hugh Stewart has been promoted in the Westland Oil Co. organization from the accounting department to manager of the company's marketing operations in Crosby, N. D. Bob Florence, former Westlander at Devils Lake, N. D., will be Stewart's assistant.

OIL INDUSTRY EXCHANGE

Positions Wanted

COMPETENT AND EXPERIENCED REPRESENTATIVE wishes to represent Refinery over large territory as Special Representative or tank car sales. Will interview. Reply Box 372, care this publication.

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A strong independent oil company in the South is seeking an experienced executive to take entire charge of its marketing operations which extend over a wide territory. An unusual and remunerative opportunity awaits a man possessing intelligence and sound judgment who has demonstrated a capacity to assume responsibility. Include age, education, detailed history of business experience and references in first letter.

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Select list of oil companies, bulk plants and jobbing concerns in various parts of country.
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CALL FOR BIDS to purchase royalty oil accruing to the United States from the Salt Creek, Wyoming, oil field. Sealed proposals, in duplicate, will be received in the office of the Secretary of the Interior, Washington, D. C., on or before noon, December 1, 1936, from responsible bidders for the purchase, beginning January 1, 1937, of royalty oil accruing to the United States from Government lands in the Salt Creek, Wyoming, oil field. Detailed specifications on quantities offered for sale, required form of bids, deliveries, volume measurements, gravity determinations, bond requirements, and action on bids, should be obtained by prospective bidders from the Director, U. S. Geological Survey, Department of the Interior, Washington, D. C., the Supervisor, U. S. Geological Survey, Casper, Wyoming, or the Register, U. S. Land Office, Cheyenne, Wyoming. Sealed bids are to be submitted to the Secretary, Department of the Interior, Washington, D. C., pursuant to the specifications, the envelope to be marked plainly "Bid on Salt Creek Royalty Oil." No bid received after the time fixed herein for submitting bids will be considered.—Secretary of the Interior.

Miscellaneous

WHAT IT COSTS
"For Sale," "Wanted to Buy," "Help Wanted," "Business Opportunities."
"Miscellaneous" classifications, set in type this size without border—10 cents a word. Minimum charge, $3.00.
"Position Wanted"—5 cents a word. Minimum charge $1.00.
Advertisements set in special type or with border—$4.00 per column inch.
Copy must reach us not later than Friday preceding date of issue.
All advertisements carried on this page are payable in advance.

LETTERS TO THE EDITOR

Dear Editor:

The writer has been marketing petroleum products to the Independent jobber along the Eastern Seaboard and adjoining territory for the past 25 years.

Some years ago when I was connected with the Union Petroleum Co. in Philadelphia, I occasionally had the pleasure of seeing you. Since 1922 I have been in business for myself along identically the same lines and for the past four years have been an ocean terminal operator in New York Harbor, bringing in fuel oils to this port in cargo lots from the American Gulf and California and distributing to the Independent jobber by barge, tank car and tank truck.

Last year the major companies, and by majors I mean Standard Oil Companies of New York and New Jersey, Sinclair Refining Co., The Texas Co., Tide Water Oil Co., Pan American Petroleum Co., Standard Oil of Indiana, Gulf Refining Co. and all others, adopted as policy well known to you and all others in the oil business, of pooling their purchasing powers and buying up all the surplus gasoline available in the American Gulf. Buying from each other and from Independent refiners at an inflated price previously agreed upon among themselves.

At the same time they depressed the tank car and barge prices in New York Harbor and other ports on their branded grades sold through their distributors, to a point where independent terminal operators are forced to sell unbranded gasoline to their independent trade at a loss.

For instance, today 65 octane gasoline is quoted at the American Gulf, and major companies will pay six (6c) cents, the Gulf in cargoes. That is the price I would have to pay. On top of this I would pay today for transportation to New York, twenty-eight (28c) cents per barrel or $0.0067 per gallon. On top of this add $0.0015 terminal cost and you have a total cost of $0.0682 per gallon, which cost does not include loss in handling and evaporation, financing, inspection, insurance, etc. The posted barge price for 65 octane gasoline in New York Harbor today is six and one-quarter (6¼c) cents and tank car price six and one-half (6½c) cents per gallon, a difference of over ½c between cost and sales price. Most of the large independent distributors of gasoline have been forced to handle a major brand which is supplied to them at a much lower price than the 65 plus octane unbranded.

Having dried up the independent jobber's source of supply of unbranded gasoline, the majors are now concentrating on doing the same thing with fuel oils.

Platt's Oilgram today posts kerosine —barge, 4⅜c; tank car, 4½c. No. 2 furnace oil—barge, 4c per gallon; tank car, 4¼c. No. 4 furnace oil—3⅝c barge; 3¾c tank car. Bunker C oil $1.15 per barrel, top or maximum—$1.20.

The Standard Oil Co. of New Jersey have made contracts with their 100 per cent distributors and some who are not 100 per cent, at their posted market price with definite tops. Since September they have been giving to these contract buyers, I presume without exception, a verbal or secret discount of ¼c per gallon. Their sales prices today are—

	Barge	Tank Car
Kerosine	4¼c	4⅜c
No. 2 furnace	3⅞c	4c
No. 4 furnace.....	3⅝c	3¾c

in other words, ⅛c under low *Oilgram* on kerosine and ¼c under on No. 2, tank car.

Since this policy has been adopted by Standard Oil of New Jersey, 1 know of two majors, Standard Oil of New York and Shell, who have made definite contracts of ¼c off their posted price. Not a verbal allowance which might be put back later to full posted price. Their intent is obvious—recalling what happened in gasoline.

Bunker oil is posted and selling at $1.15 per barrel here and major companies have paid 95c the Gulf, plus 30c per barrel transportation, or $1.25 per barrel New York Harbor. This oil they put into their terminals in New Jersey and deliver by barge to Brooklyn and load into buyer's tank wagons at $1.15 per barrel, Brooklyn. This storage at New York and Brooklyn and barging equals at least 15c per barrel additional, so their loss is 25c per barrel on each transaction.

They cannot alibi purchases of this oil on the basis of expected higher prices this winter for they will contract with a maximum price of $1.20 per barrel for a year. Last week Sylvestre Oil Co., wholly owned and operated Standard Oil of New Jersey retail unit, sold a consumer of Bunker C Fuel oil delivered in New Jersey, a quantity of this grade delivered by tank wagon over a period of a year at a flat price of $1.30 per barrel, delivered. It costs at least 15c per barrel to deliver from Brooklyn, their terminal, making their delivered cost $1.55 per barrel, a loss of 25c per barrel. Is not this unfair marketing practice and just plain damn foolishness?

There is hardly a product of petroleum sold today that is not manipulated in just the same way, making it impossible for Independent cargo buyers to compete and eventually putting the Independent retail distributor out of business leaving the field to the majors and then instead of low retail prices, the manufacturer and consumer will pay through the nose.

Recently our company sold oil to a company that two major companies have been supplying for years. The material we supplied was made from Southwest Texas Crude, the price of which has varied only 5c per barrel in the past three years and is bought and refined principally by Independents operating ni the Corpus Christi and Houston area. Humble Oil and Refining Co. (Standard Oil of New Jersey) on November 1 raised this crude 5c per barrel making the posted price on Saxet, 95c—Mirando, 90c. All they have to do is to raise this crude another 10c and put those independents out of business, and if something isn't done about it at once, that is just what will happen.

Those of us who have been independents for some years can clearly see what the majors are hoping to accomplish—namely, by drying up the independent sources of supply, they, with under market prices at the Gulf, will force the independent retailer to buy from them and for one, possibly two years, will give the Independent a break. Then they will put the pressure on and very shortly will tell our friends, the Independent, just what margin he can have and in another five years there won't be an Independent of an consequence in business.

Aside from being forced from business by these unfair tactics on the part of the major companies, I take exception to their breach of definite Federal laws, such as selling at a loss, unfair business practice and secret discounts, contrary to the Robinson-Patman Act.

All of the Independents to whom I have talked, not only independent terminal brokers but jobbers, are as much upset by the situation as outlined as I am and I am writing to you in the hope that through your publications, you might, by making this letter public, have some pressure brought to bear to alleviate this condition.

Yours very truly,

Frank O. Bennett.
Bennett Oil Co., Inc.,
366 Madison Ave.
New York, N. Y.

Dedicate Radio Station

MINOT, N. D.—Westland Oil Co's. remodeled and higher power radio station at Wolf Point, Mont., KGCX, was dedicated Oct. 22 with a special program from 1 p. m. to 1:30 a. m. Fan mail indicated the station had been heard as far away as Lancaster, Pa.